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KING'S
College
LONDON

The King's Centre for Integrative Chinese Medicine

An innovative approach to society's
major healthcare challenges



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Integrative Chinese Medicine: Why and How?

*"We cannot solve our problems with the same
thinking we used when we created them."*

Albert Einstein (1879 -1955)

Integrative Chinese Medicine (ICM)

ICM seeks to deliver patient-centred, safe and effective healthcare by merging the wisdom of traditional Chinese medicine (TCM), conventional medicine, and modern science and technology. It is not a mere combination of two medical systems but an epic interdisciplinary effort to shape the future of medicine, addressing contemporary health challenges through collaboration, research and innovation.

The Need for ICM

Conventional medicine faces challenges in addressing chronic diseases, functional disorders and preventive care. TCM, with its holistic approach, function-oriented diagnosis, emphasis on endogenous defence, metabolic homeostasis, and personalised prevention and treatment (both pharmacological and non-pharmacological), offers valuable insights to address these gaps. Integrating these two medical systems enhances our understanding of health and disease, paving the way for more effective prevention and treatment strategies.

Achieving ICM

- Breaking down barriers and fostering interdisciplinary collaboration.
- Harmonising the philosophies of TCM and conventional medicine.
- Combining expertise and resources from both fields with cutting-edge science and technology.

As Albert Einstein noted, solving complex problems requires new ways of thinking. ICM embodies this principle, advancing medical practice and exploring innovative solutions for human health through cross-cultural learning and collaboration.

<p>Holistic, personalised, function-oriented diagnoses</p>  <p>Four diagnostic methods (Inspection, Auscultation & olfaction, Inquiry and Palpation) are the key to TCM diagnosis</p>	<p>A traditional medicine with over 2000 years of text record</p>  <p>By 1911, 410 volumes, 800 Chinese <i>materia medica</i> works have been published</p>
<p>Use of herbal drugs and other types of medication</p>  <p>Over 11,000 botanical species, 1600 zoological species and 80 mineral substances</p>	<p>Non-drug therapies, e.g., acupuncture, Tai-chi and tuina</p>  <p>A dozen of non-drug therapies also include cupping, Gua Sha, lotus position, medical Qigong, meditation, etc.</p>

The importance of integrating two enduring philosophies of medicine

Universal access to safe and effective traditional, complementary and integrative medicine for health and wellbeing is central to the World Health Organization (WHO) Traditional Medicine Strategy 2025-2034. The King's CICM initiative explores TCM as a case study for innovation by blending different medical traditions with cutting-edge science and technology.

Characterised by interventions guided by holistic, personalised and function-oriented diagnostics, TCM is an integral component of China's mainstream higher education and healthcare systems. The WHO recognises TCM as one of the world's most ancient medical systems and one that still plays an important role in global healthcare. TCM research has led to the discoveries of artemisinin for malaria (*Nobel Prize* 2015) and arsenic dioxide for leukaemia (*Future Science Prize* 2020). Accumulating evidence supports the use of TCM to address major unmet medical needs of modern society (**Appendix 1**), and it is widely anticipated that TCM will continue to inspire groundbreaking innovations in health science and care. Against this backdrop, researchers at King's College London (King's) have developed an *ICM approach to catalysing innovation* by breaking down barriers, facilitating dialogue, supporting collaboration, and integrating wisdom, expertise and resources from TCM, conventional medicine, and state-of-the-art science and technology.

King's scientists are among the pioneers in investigating the nephrotoxic and carcinogenic effects of aristolochic acid-containing plant species. Their work has contributed to the ban of these species, hence making herbal medicine safer. They are at the forefront of innovation by integrating Western and Chinese wisdom in the medical field. For example, they are leaders in TCM-inspired research of kidney disease and antifibrotic therapies, and in promoting good practices in the research of traditional, complementary and integrative medicine, and in facilitating interregional, intersectoral and interdisciplinary collaborations in TCM and other ethnic medicines (**Appendix 2**).

Building on this track record, King's is preparing the groundwork for a *Centre for Integrative Chinese Medicine* to catalyse innovation in medical education, research, healthcare and regulation. Aligned with *WHO Traditional Medicine Strategy 2025-2034*, *NHS Priorities*, and *King's Strategy and Vision*, the Centre will build upon *well-established international standards*, *good practice guidelines* and *collaboration networks*, which will also support the integration of other ethnic wisdom, such as Ayurveda, Unani and yoga from India, into tomorrow's medicine and healthcare.

King's College London. This renowned institution was founded in 1829 by King George IV and the Prime Minister, Duke of Wellington, on the banks of the Thames in central London. It was a founding member of the University of London, one of the oldest universities in the UK. King's is a world-famous centre for scientific & technological innovation and the cradle of talent cultivation. From it, 14 Nobel Prize winners have emerged. King's is ranked 40th in the 2025 QS World University Rankings, 1st in Nursing, 4th in Dentistry and 11th in Life Sciences and Medicine.



Strand campus, King's College London (Somerset House East Wing)

In 2009-2012, King's led the development and implementation of the 1 million Euro *Good Practice in Traditional Chinese Medicine Research in the Post-Genomic Era* (GP-TCM) project, the EU's first-ever EU-China cooperation on the modernisation of Chinese medicine, funded under the 7th Framework Programme of the European Commission. King's also led the conversion of the GP-TCM



The KHP logo

consortium to the GP-TCM Research Association and its establishment into a UK-based charity, an Interested Party of the European Medicines Agency and an acclaimed international society dedicated to the development and dissemination of good practices in TCM research.

In 2013, King's and its world-renowned teaching hospitals (collectively known as King's Health Partners, KHP) decided to develop a new centre dedicated to catalysing innovation by integrating wisdom derived from TCM, conventional medicine and state-of-the-art bioscience.

King's teaching hospitals include St. Thomas' Hospital, opposite the Houses of Parliament across the River Thames. Here, Florence Nightingale founded the world's first vocational nursing school. The hospital is also the birthplace of the prestigious medical journal *The Lancet* and modern nephrology, lymphomatology and endocrinology.

Standing at London Bridge on the south bank of the Thames, just beside the Shard, the tallest building in Western Europe, King's Medical School at Guy's Hospital has hosted many MRC Research Centres, the UK's national medical research teams.

King's College Hospital and Maudsley Hospital, located on the Denmark Hill Campus, are South London's most influential general hospital and the oldest and most prestigious psychiatric hospital in the UK, respectively. Together, they embody King's long-standing tradition of integrating body and mind in studies of health and disease.

King's Centre For Integrative Chinese Medicine (CICM)

King's CICM is a research-focused interdisciplinary initiative of King's College London and KHP. It was approved by the KHP Research Committee as an incubator for innovative research, teaching and care through interdisciplinary, intersectoral and interregional collaborations.

King's CICM aims to catalyse innovation, nurture talent, foster disruptive research, facilitate knowledge exchange and support cooperation by integrating modern health science and care with TCM-derived wisdom and practices. Bearing the banner of *good practice*, the centre combines KHP strengths with complementary TCM knowledge and resources to provide innovative solutions to major challenges of modern society.

King's CICM plans to kick-start with a few priority areas. As resources and expertise grow, our R&D remit will be expanded gradually to cover other major health threats aligned with the priorities of the World Health Organization (WHO), the National Health Service (NHS) and the National Institute for Health and Care Research (NIHR), as well as the strengths of KHP (e.g. cancer, kidney, heart, brain, liver, lung diseases, mental health, infertility, antibiotic resistance, diseases of ageing, infection, inflammation and pain-related conditions, as well as long-neglected rare diseases). *The objective is to provide safe, cost-effective, innovative and equitable solutions through an ICM approach.*



St. Thomas' Hospital



King's College Hospital

King's CICM Fundraising Activities

To enable the King's CICM initiative, a fundraising campaign was launched and a substantial grant income for this centre was achieved. This fundraising campaign was put on hold due to the SARS-CoV2 pandemic in 2020.

8 October 2024 marks the rebirth of CICM

The King's CICM was relaunched in 2024. The freeze on fundraising was lifted on 8 October 2024.

Like the rebirth of the Phoenix, King's CICM renews its life with vigour. A new business blueprint and a new fundraising plan are released, as summarised in this document.

King's CICM 2.0 plans to raise funds in **two key stages**, to facilitate its continued success:

Patient and Public Involvement (PPI) are central in King's CICM 2.0 initiative. We will listen to, collaborate with, and strive to serve the needs of patients and society.

Stage 1: King's CICM Empowerment Fund

Target: £500,000 by December 2025

Purpose: This funding will allow for laying a solid foundation for a world-class centre for ICM:

In Stage 1, King's CICM aspires to establish the following "brand":

- Leaders in high-quality, objective scientific studies of TCM;
- Frontrunners in promoting Patient and Public Involvement, Equality, Diversity and Inclusion in integrative medicine;
- Regular contributors to top clinical and science journals;
- Key consulting centre for regulatory authorities, non-governmental organisations and the public for independent, objective and accurate assessments;
- Preferred UK and European partner for Chinese institutions, companies and authorities in their international development strategy; and
- Experts in new therapeutic development, *e.g.* addressing the hidden, as yet rapidly growing, epidemic of kidney disease (*Nature* 2024;628:7-8) and fibrotic diseases — soft tissue scarring, hardening and stiffness — a common leading cause of chronic organ failure and mortality in modern society (*N Engl J Med.* 2015;372:1138-49).

These are built on what we have already achieved so far. This includes:

- Leadership of a global collaborative network through the GP-TCM project and the GP-TCM Research Association, which is particularly influential in Europe and China;
- Highly-cited TCM-related publications, such as those on GP-TCM good practice guidelines (*J Ethnopharmacol.* 2012;140:469-475), GP-TCM report on TCM omic studies (*J Ethnopharmacol.* 2012;140:535-544) and the GP-TCM Research Association position paper on the "3Is" principles (integrity, integration and innovation) (*BMC Complement Altern Med.* 2013;13:132) —each of these publications has been cited over 200 times, and four other research papers on TCM, fibrosis and antifibrotic therapies have been each cited over 100 times; and
- Novel research directions on kidney diseases and antifibrotic therapies, *e.g.*, kidney defence mechanisms as a convergence point of regulation and novel therapeutic target in acute kidney injury and chronic kidney disease, as inspired by the TCM "Healthy Qi" theory (*Nephron* 2019;143:148-152; *Sci Rep.* 2020;10:16683; and *Exp Biol Med.* 2024;249:10167) and metabolic

mechanisms of fibrosis and antifibrotic therapies, as inspired by the TCM "Yang Qi" theory (Sci Rep 2020;10:19054 and *Phytomedicine* 2022;100:154049).

- A team of King's CICM faculty (**Appendix 3**) with strong expertise in nephrology, cardiology, vascular biology, cancer studies and pharmaceutical science have been developed. This will continue to grow.

In Stage 1, we will focus on the following.

King's CICM — website, library and related innovation:

- Support research and teaching, showcase the history, blueprint, scientific aspirations and milestones of the King's CICM project;
- Build networks and stimulate enthusiasm;
- Collaborate closely with the WHO, NIHR, British Library, British Museum, Royal Botanical Gardens and other world-leading institutions to boost our education, research and social impact.

King's CICM — curriculum and forum:

- Facilitate dialogues among practitioners of TCM (including non-drug therapies *e.g.* acupuncture), other medical traditions (*e.g.* Ayurveda, Unani and yoga), conventional medicine, medical education and regulation through student-selected projects and initiatives of the MBBS and biosciences curricula, regular CICM fora, panel discussions, workshops, meetings, as well as dissemination and outreach activities;
- Promote education, research and care, disseminate the latest developments, and promote *good practices* and interdisciplinary collaboration.

King's CICM — R&D and training:

We have identified 13 priority areas for ICM research and training. Characterised by the application of cutting-edge science & technology and interdisciplinary approaches, these projects will break down barriers, facilitate dialogue and collaboration, promote good practices, and will particularly emphasise TCM-inspired biomedical innovation, clinical efficacy and safety of TCM drugs and non-drug therapies, efficacy- and safety-based mechanisms, and marketing of innovative ICM products.

1. Systemically cataloguing TCM-related collections of world-leading British libraries, museums, universities and research institutes to facilitate information exchanges and support research, education and training.
2. Conducting surveys of patients, practitioners, care providers and other stakeholders in NHS hospitals, general practitioner services and TCM clinics to gain evidence needed to guide ICM research, teaching and care.
3. Identifying and addressing possible reasons for conflicts among different medical modalities and approaches.
4. Leading and participating in international collaborations to develop, disseminate and implement good practice guidelines and standards in integrative medicine research.
5. Leading, supporting and enabling international collaborations in authentication, quality control and exchange of medicinal plants, herbal drugs and other medicinal materials, as these activities are the foundation of high-quality traditional, complementary and integrative medicine.

6. Applying bioimaging, photoplethysmography (measuring blood volume in the peripheral circulation), pulse wave velocity and artificial intelligence to TCM inspection, tongue and pulse diagnostics, to innovate in clinical diagnosis.
7. Applying Bayesian methods, network pharmacology and artificial intelligence (AI) to TCM real-world data to identify signals of potential efficacy and safety concerns.
8. Conducting innovative randomised controlled trials, including randomised controlled, pragmatic and n-of-1 trials, to examine efficacy, effectiveness and safety of TCM and ICM interventions, notably incorporating TCM diagnosis-based stratification.
9. Conducting studies of endogenous defences of the kidney and other organs, as inspired by the TCM concepts of Healthy qi (正气) and Wei defensive qi (卫气), which defend against injury caused by pathogenic qi (邪气). This will enable the development of potential novel diagnostic, preventive, and therapeutic strategies.
10. Conducting knowledge-based studies of TCM tonifying drugs and non-drug therapies, including traditional acupuncture, electroacupuncture, moxibustion, acupoint laser radiation, medical qigong, etc, to drive innovation in prevention and therapeutics by restoring compromised endogenous defence mechanisms.
11. Conducting multi-omics-based studies of cellular, genetic, epigenetic, and metabolic mechanisms of dysfunctional Yin qi (阴气) and Yang qi (阳气) that underpin disease, to guide targeted, personalised TCM and ICM intervention.
12. Contributing to introducing efficacious and safe traditional medicine products into the UK/European markets. This will foster the development and enrichment of integrative medicine by incorporating diverse health concepts, methodologies, and products.
13. Applying emerging new science & technology to probe the scientific basis of some sophisticated TCM concepts that cannot yet be explained by conventional technologies.

Along these lines, King's CICM will develop specific projects led by faculty members, with appropriate funding and collaboration. This will be guided by the opinions of the patients, care providers and the public. Based on the expertise of our faculty, our fundraising will especially focus on *kidney disease*, heart disease, stroke and *cancer* to advance TCM-inspired biomedical innovation, drug development and non-drug therapies. We foresee that our research remit will expand to other WHO priorities such as *diabetes*, *respiratory disease* and *mental health*, as the expertise of our faculty grows.

King's CICM — team development:

- **Directed by** Dr. Qihe Xu, a nephrologist and pharmacologist, an international leader in promoting good practices and bridging collaborations, and a vanguard in TCM-inspired innovation.
- **A team of CICM Staff** is being established (**Appendix 3**), with expertise in studies of *Ageing, AI and Digital Technologies, Cancer, Cardiology and Vascular Biology, Clinical Studies, ICM, Medical Statistics, Medicinal Chemistry, Nephrology, Pharmaceutical Science, PPI and fundraising* — which will grow as the King's CICM initiative develops.



- **A prestigious Honorary Advisory Board** comprising international and national (UK) leaders of the TCM community and related studies (**Appendix 4**) has been established, offering complementary expertise in *Acupuncture and TCM, Chinese Materia Medica and Herbal Medicine, Clinical Trial Design and Medical Statistics, Pharmacy, Pharmacognosy, Pharmacology and PPI* —given China's vast expertise and unique leadership in TCM and relevant studies, we risk honouring a few but missing many if we choose to appoint Honorary Advisors from Mainland China; to avoid this, we refrain from appointing Honorary Advisors from Mainland China. Instead, we look forward to developing collaborations and strive to be their preferred British and European collaborators.



- **Collaborators:** From the King's CICM Fora, the King's CICM Website, to Classic and Contemporary TCM Literature Studies, as well as Clinical and Preclinical Research Projects, we will develop interregional, interdisciplinary and inter-sectoral partnerships tailored to the needs of specific projects. This evolving collaborative ecosystem constitutes a defining feature of King's CICM, and it serves as a fundamental pillar of our success, with its scope and impact growing in tandem with project advancement.
- **Staff, Honorary Advisors and Collaborators will form project steering committees** to conduct quality control of what we do at King's CICM.

King's CICM Empowerment Fund aims to achieve the following main outcomes:

- Interdisciplinary, interregional and intersectoral collaborative networks;
- Scientific innovation and discovery, novel evidence informing policy making and clinical practice to ensure the safety and well-being of the public;
- Intellectual property rights (patents and licensing);
- Stimulating and engaging healthcare education, narrowing the gaps and lowering the barriers among medical traditions, and increasing quality of research by dissemination and outreach activities; and
- Nurturing talents at postdoctoral and all degree levels.



To enhance the impact of the CICM Empowerment Fund, we will:

- Focus on developing mutually beneficial, co-funded research and training projects and nurturing scholarship and fellowship-winning talents.
- Invest one-third to half of the funding from the CICM Empowerment Fund to attract the rest of the needed investment from collaborators and other funders such as WHO, European Commission, UK Research and Innovation (UKRI), NIHR, Wellcome Trust, Royal Society, Kidney Research UK, China Scholarship Council, Innovation & Investment Funds from Taiwan, Hong Kong and Macao, Bernard Osher Foundation, the Oak Foundation, the Bill & Melinda Gates Foundation, and industrial partners.

Stage 2: King's CICM Establishment Fund

Target: £5,000,000 by December 2029

Purpose: This fund will facilitate the official launch of the King's CICM by recruiting global talents, facilitating collaboration and resource integration, and expanding the CICM education, research, healthcare and outreach programmes in a steady & sustainable manner.

Key initiatives: ABCDEFG

- **Assemble** and consolidate interregional, interdisciplinary and intersectoral teams at King's, King's teaching hospitals and through virtual coordinated, dynamic and effective collaborations.
- **Building bridges** among scientists, clinicians, technologists, regulators and experts in medical humanities to make the best use of the resources and expertise available from KHP and beyond.
- **Catalyse innovation** through integrating biomedical and pharmaceutical research, modern medical science and technology (evidence-based medicine, omics, systems biology, network pharmacology, artificial intelligence, real-world studies, n-of-1 studies and quantum technologies) and TCM (holism, personalised medicine, function-oriented syndrome differentiation; varying treatments according to time, place and person; intervention before illness arises; and herbal medicine and non-drug approaches, e.g. acupuncture & moxibustion).
- **Develop, implement and disseminate *good practices*** through high-quality publications, high-profile conferences, leadership in national and international societies and initiatives, and positive interaction with other stakeholders.
- **Enable talented researchers** to carry out innovative research and sustainable development of King's CICM 2.0 through winning peer-reviewed incomes from the EU, NIHR, UKRI, national and international charitable funders, and international collaboration funds, as well as securing philanthropists' contributions.
- **Focus on delivering *safe, cost-effective and innovative solutions*** to health problems, as informed by the NHS Priorities and Operational Planning Guidance 2024/25, which will gradually extend to cover all major health problems facing the modern world, e.g. cancer, kidney and cardiocerebral vascular diseases, liver and lung diseases, infertility, mental health and other painful life-threatening and/or rare disorders.
- **Generate intellectual property** to support commercialisation, in close collaboration with King's Commercialisation Institute, the NHS and the industry.

ACADEMIC LEADERSHIP



Dr. Qihe Xu, Director of *King's Centre for Integrative Chinese Medicine*, is a nephrologist and pharmacologist. His research focuses on the prevention and treatment of kidney diseases through an ICM approach, including studies of nephroprotective and antifibrotic herbal medicines.

Dr. Xu was Principal Investigator of the FP7 GP-TCM EU-China collaboration on modernisation of TCM. Since 2012, he has been a leading figure of the *GP-TCM Research Association*, a charitable international society dedicated to development & dissemination of good practices in TCM research, and a consulting body of the European Medicines Agency. In 2020, Dr. Xu was awarded the Qihuang International Prize, China Association of Chinese Medicine - so far, only 15 scientists worldwide have been honoured by this prestigious award.

Through these initiatives, King's CICM will catalyse the innovation that the NHS and healthcare services worldwide urgently need to tackle society's most pressing challenges. It will actively contribute to all three key reforms proposed in the 2024 Darzi Independent Review of the NHS in England—shifting from sickness to prevention, transitioning from analogue to digital, and bringing care closer to communities. Furthermore, King's CICM can drive transformative change in biomedical education and research, delivering more patient-centred, safe, and effective solutions for chronic diseases, functional disorders, preventive care, and beyond.

As outlined in this Handbook's introduction, King's CICM positions ICM as a pioneering case study for healthcare innovation, bridging ancient medical traditions with contemporary scientific and technological advancements. Building on this foundation, we are committed to incorporating insights from diverse global ethnomedical systems, ensuring that underrepresented cultural wisdom informs the future of medicine. Our strategic vision includes establishing the *King's Institute for Integrative Medicine*—a flagship hub where CICM will collaborate with specialised centres dedicated to studying other ethnic medical traditions. Ultimately, we aspire to elevate the Institute into a WHO Collaborating Centre for Traditional, Complementary and Integrative Medicine, solidifying its role as a global authority in harmonising heritage-based knowledge with evidence-based, translational research.

King's 200th anniversary celebration

Stage 2 will enable the official launch of CICM as soon as funding is in place, preferably by 2029, in time to celebrate King's College London's 200th anniversary.

Your support is requested

King's reputation in conventional medicine and health sciences is world-class. We are now working to establish a research-led ICM platform, adding to King's leadership in medical innovation. This is a daunting task, but the opportunities are astounding. We are excited about the challenges ahead.

Please get in touch with us if you are interested in donating, supporting or collaborating with us.

Please circulate this document if your contacts are interested in this project.

Please contact us

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Appendix 1. Randomised Controlled Trial Evidence Supporting an ICM Approach

TCM drugs for disease prevention

- Jinlida for **diabetes prevention** in impaired glucose tolerance and multiple metabolic abnormalities: The FOCUS randomised clinical trial (Ji H et al. *JAMA Intern Med* 2024;184:727-35).
- Effects of ginseng berry saponins from panax ginseng on glucose metabolism of patients with **prediabetes**: A randomised, double-blinded, placebo-controlled, crossover trial. (Gao J et al. *Phytomedicine* 2024;132:155842).
- **Atrial tachyarrhythmia prevention** by Shensong Yangxin after catheter ablation for persistent atrial fibrillation: the SS-AFRF trial (Huang H et al. *Eur Heart J* 2024;45:4305-14).
- Entecavir plus Biejia-Ruangan compound **reduces the risk of hepatocellular carcinoma** in Chinese patients with chronic hepatitis B (Ji D et al. *J Hepatol* 2022;77:1515).

TCM drugs for treating heart diseases and stroke

- **Heart failure** (*Nat Med* 2024; *JACC* 2013):
 - The traditional Chinese medicine Qiliqiangxin in heart failure with reduced ejection fraction: a randomised, double-blind, placebo-controlled trial. (Cheang I et al. *Nat Med* 2024; 30:2295-302).
 - A multicenter, randomised, double-blind, parallel-group, placebo-controlled study of the effects of qili qiangxin capsules in patients with chronic heart failure (Li X et al. *J Am Coll Cardiol*. 2013;62:1065-72).
- **Acute myocardial infarction and coronary heart disease** (*JAMA* 2023; *Phytomedicine* 2024 ×2)
 - Traditional Chinese medicine compound (Tongxinluo) and clinical outcomes of patients with acute myocardial infarction: The CTS-AMI randomised clinical trial. (Yang Y et al. *JAMA* 2023;330:1534-45).
 - A multicenter, randomised, double-blind, placebo-controlled trial to evaluate the effect of Tongmai Yangxin pill on ventricular remodelling in acute anterior STEMI patients after primary PCI. (Wang Y et al. *Phytomedicine* 2024;135:156133).
 - Efficacy and safety of yangxinshi versus trimetazidine on exercise tolerance in patients with coronary heart disease after percutaneous coronary intervention: Multicenter, double-blind clinical trial (Li Y et al. *Phytomedicine* 2024;135:156198).
- **Acute ischaemic stroke**: Tongxinluo and functional outcomes among patients with acute ischemic stroke: a randomised clinical trial (Dong Y, et al. *JAMA Netw Open* 2024;7:e2433463).

TCM drugs for diabetes, diabetic kidney disease and other chronic kidney disease

- The clinical efficacy of Gegen Qinlian Decoction in treating **type 2 diabetes** is positively correlated with the dose of coptidis rhizoma: three randomised, double-blind, dose-parallel controlled clinical trials. (Kang X et al. *Drug Des Devel Ther* 2024;18:5573-82).
- Add-on astragalus in **type 2 diabetes** and **chronic kidney disease**: A multi-center, assessor-blind, randomised controlled trial (Chan KW et al. *Phytomedicine* 2024;130:155457).
- Add-on rehmannia-6-based chinese medicine in **type 2 diabetes** and **CKD**: A multicenter randomised controlled trial (Chan KW et al. *Clin J Am Soc Nephrol* 2023;18:1163-74).
- Efficacy of combined abelmoschus manihot and irbesartan for reduction of albuminuria in patients with type 2 diabetes and diabetic kidney disease: a multicenter randomised double-blind parallel controlled clinical trial (Zhao J et al. *Diabetes Care*. 2022;45:e113-5).

TCM drugs for other major unmet medical needs

- Effectiveness and safety of Sanhan Huashi granules versus nirmatrelvir-ritonavir in adult patients with **COVID-19**: A randomised, open-label, multicenter trial. (Zou X et al. *Sci Bull (Beijing)*. 2024;69:1954-63).
- Effects of Lianhuaqingwen Capsules in adults with mild-to-moderate **COVID-19**: an international, multicenter, double-blind, randomised controlled trial. (Zheng JP et al. *Virology* 2023;20:277).
- Xiaoyao Pills, a Chinese patent medicine, treats mild and moderate **depression**: A randomised clinical trial combined with DNA methylation analysis. (Fan L et al. *Phytomedicine* 2024;130:155660).
- Efficacy and safety of YOXINTINE for **depression**: A double-blinded, randomised, placebo-controlled, phase 2 clinical trial (Dong Z et al. *Phytomedicine*. 2024;136:156204).
- Efficacy and safety of Qushi Huayu, a traditional Chinese medicine, in patients with **nonalcoholic fatty liver disease** in a randomised controlled trial. (Liu Y et al. *Phytomedicine*. 2024;130:155398).
- Effects of the Zishen Yutai Pill on live births compared with placebo among **infertile women** with frozen-thawed embryo transfer cycle: A multicentre double-blind randomised controlled trial. *Phytomedicine* (Chen X et al. *Phytomedicine* 2024;135:156072).
- Effect of Xuefu zhuyu oral liquid on **tension-type headache**: A randomised clinical trial (Zhou L et al. *Phytomedicine* 2024;135:156112).
- Efficacy and safety of Dachaihu decoction for **sepsis**: A randomised controlled trial (Huang N et al. *Phytomedicine* 2024;136:156311).
- The efficacy and safety of Bazi Bushen Capsule in treating **premature aging**: A randomised, double blind, multicenter, placebo-controlled clinical trial (Mei J et al. *Phytomedicine* 2024;130:155742).

TCM non-drug interventions to address major unmet medical needs—acupuncture for example

- Effect of adding **electroacupuncture** to standard triple antiemetic therapy on **chemotherapy-induced nausea and vomiting**: A randomised controlled clinical trial. (Shen G et al. *J Clin Oncol* 2024;42:4051-9).
- **Acupuncture vs sham acupuncture** for **chronic sciatica from herniated disk**: A randomised clinical trial (Tu J et al. *JAMA Intern Med* 2024; 184:1417-24).
- Effect of **acupuncture** on neurogenic claudication among patients with **degenerative lumbar spinal stenosis**: A randomised clinical trial (Zhu L et al. *Ann Intern Med*. 2024;177:1048-57).
- Effect of acupuncture for **methadone reduction**: a randomised clinical trial. (Lu L et al. *Ann Intern Med* 2024;177:1039-47).
- Effectiveness of acupuncture for **anxiety among patients with parkinson disease**: a randomised clinical trial (Fan JQ et al. *JAMA Netw Open* 2022;5:e2232133).
- Manual **acupuncture versus sham acupuncture** and usual care for prophylaxis of **episodic migraine** without aura: multicentre, randomised clinical trial. (Xu S et al. *BMJ* 2020;368:m697).
- The long-term effect of **acupuncture for migraine prophylaxis**: a randomised clinical trial (Zhao L et al. *JAMA Intern Med* 2017;177:508-15).

Appendix 2. Selected KHP Publications Laying the Foundation of King's CICM

Investigating the nephrotoxic and carcinogenic effects of aristolochic acid-containing plants.

- Lord GM, Tagore R, Cook T et al. Nephropathy caused by Chinese herbs in the UK. *Lancet* 1999;354:481-2.
- Lord GM, Cook T, Arlt VM et al. Urothelial malignant disease and Chinese herbal nephropathy. *Lancet* 2001;358:1515-6.
- Lord GM, Hollstein M, Arlt VM et al. DNA adducts and p53 mutations in a patient with aristolochic acid-associated nephropathy. *Am J Kidney Dis* 2004;43:e11-7.
- Cronin AJ, Maidment G, Cook T et al. Aristolochic acid as a causative factor in a case of Chinese herbal nephropathy. *Nephrol Dial Transplant* 2002;17:524-5.
- Gökmen MR, Lord GM. Aristolochic acid nephropathy. *BMJ* 2012;344:e4000.
- Gökmen MR, Cosyns JP, Arlt VM et al. The epidemiology, diagnosis, and management of aristolochic acid nephropathy: a narrative review. *Ann Intern Med* 2013;158:469-77.

Research on herbal efficacy, safety and mechanisms of action.

- Hu Q, Noor M, Wong YF et al. *In vitro* anti-fibrotic activities of herbal compounds and herbs. *Nephrol Dial Transplant* 2009;24:3033-41.
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Appendix 3. A growing list of King's CICM Staff (last updated on 7th May 2025)

Cancer and Pharmaceutical Sciences

- Prof Khuloud Al-Jamal, Professor of Drug Delivery & Nanomedicine and Head of Medicines Development, King's College London (KCL); Head of Department of Pharmacology and Pharmacy; Leading KCL-HKU Liaison: <https://www.kcl.ac.uk/people/khuloud-al-jamal>
<https://www.pharma.hku.hk/en/Department/From-Our-Head>
- Prof Miraz Rahman, Professor of Medicinal Chemistry, KCL. Expert in Antimicrobial & Anticancer Drug Discovery: <https://www.kcl.ac.uk/people/miraz-rahman>
- Prof Eric CW So, Professor and Chair in Leukaemia Biology, KCL. Expert of Leukaemia and Stem Cell Biology Research: <https://www.kcl.ac.uk/people/eric-cw-so>

Cardiology and Vascular Biology

- Dr Haotian Gu, Clinical Senior Lecturer, KCL; Honorary Consultant Clinical Scientist in Cardiac Imaging at St Thomas' Hospital. Expert in Cardiac Imaging and Clinical Research: <https://www.kcl.ac.uk/people/haotian-gu>
- Dr Richard Siow, Director, Ageing Research at King's and Reader in Vascular Biology, KCL. Expert in Ageing, Healthy Longevity and Preventive Medicine Research:
<https://www.kcl.ac.uk/people/richard-siow>
- Dr Min Zhang, Senior Lecturer in Cardiovascular Biology, KCL. Cardiac Research Expert: <https://www.kcl.ac.uk/people/min-zhang>
- Dr Qiuping Zhang, Senior Research Fellow in Cardiovascular Biology, KCL. Vascular Research Expert: <https://www.kcl.ac.uk/people/qiuping-zhang>

Fundraising

- Mr Oliver Mangham, Senior Philanthropy Manager – International, KCL.
<https://www.linkedin.com/in/oliver-mangham-bb744535/>
- Mr Alex Page, Senior Donor Relations Manager, Philanthropy & Alumni Engagement, KCL and King's Maudsley Partnership. <https://www.linkedin.com/in/alex-page-b89602a6/>

Medical Humanity

- Prof Fay Bound Alberti, Professor and Director, Centre for Technology and the Body, Professor in Modern History, KCL: <https://www.kcl.ac.uk/people/fay-bound-alberti>
- Prof Chris Berry, Professor of Film Studies, KCL. Expert in Arts and Media Research; CICM Liaison with the Faculty of Arts & Humanities: <https://www.kcl.ac.uk/people/professor-chris-berry>

Medical Statistics, AI and Digital Technology:

- Prof Yanzhong Wang, Professor of Statistics in Population Health, Head of Medical Statistics, KCL: <https://kclpure.kcl.ac.uk/portal/en/persons/yanzhong.wang>
- Dr Yunpeng Li, Reader in AI & Digital Oral Health, KCL; Visiting Reader at the Surrey Institute for People-Centred AI. <https://www.kcl.ac.uk/people/yunpeng-li>; <https://yunpengli.ac>
- Dr Zhiqiang Huo, Visiting Lecturer, KCL; Lecturer, Queen Mary University of London. Expertise: AI and digital technologies in health.

<https://zhiqiang-huo.github.io> AND <https://www.kcl.ac.uk/people/zhiqiang-huo>

Nephrology

- Dr Qihe Xu, Director, King's CICM, King's Health Partners; Senior Lecturer in Renal Medicine & Pharmacology, KCL: <https://www.kcl.ac.uk/people/qihe-xu-1>
- Prof Iain Macdougall, ex-Professor of Clinical Nephrology, King's College Hospital (retired). Expert in Randomised Clinical Trials (>30 NEJM, Lancet, JAMA and BMJ papers, Hi-index 94):
<https://scholar.google.com/citations?user=ik9ECHsAAAAJ&hl=en>
- Mr Mazhar Noor, Technical Manager, Department of Inflammation Biology, KCL. Expert in Renal Cell Biology & Animal Models of Kidney Diseases.

Patient and Public Involvement Advisor: Ms Deborah Johnston, Patient Governor, Council of Governors of King's College Hospital: <https://www.kch.nhs.uk/about/how-we-are-organised/council-of-governors/patient-governors/>

TCM expert: Ms Titta M. Laattala Lic.TCM, Dip.MQG, Dip.CHM, MPRTCM, MPRCHM, MRCHM, King's College Health Centre, KCL: <https://jscm.uk/profile/titta-m-laattala/>

Appendix 4. King's CICM Honorary Advisory Board, last updated on 26th Feb. 2025

Honorary Advisors	Main expertise
Yung-Chi Cheng (Chair)	Professor of Pharmacology, Yale University; Chairman of the Consortium for Globalization of Chinese Medicine
Clara Bik-San Lau (Co-Chair)	Professor in Phytomedicine, The University of Hong Kong; Past President, Good Practice in Traditional Chinese Medicine Research Association (GP-TCM RA)
Rudolf Bauer	Professor of Pharmacognosy, University of Graz, Austria
Sukvinder K Bhamra	Senior Lecturer in Clinical and Professional Practice, University of Kent
Abraham YL Chan	Founder, Chairman, CEO, Executive Director, PuraPharm
Kelvin Chan	Emeritus Professor in Natural products & TCM Research, Liverpool John Moores University
Yuan Shiun Chang	Professor of Pharmacognosy, China Medical University, Taichung
Shirong Chen	Editor-in-chief, Templar Global Media
Zan-Yu Chen	President of the Federation of Traditional Chinese Medicine Practitioners, UK
Pierre Duez	Professor of Pharmacognosy, University of Mons
Thomas Efferth	Professor of Pharmaceutical and Biomedical Sciences, Mainz University
Tai-Ping Fan	Dean, School of Life & Health Sciences, Fujian Fuyao University of Science & Technology
Yibin Feng	Professor and Director, School of Chinese Medicine, The University of Hong Kong
George He	Executive Director of the UK Centre of Chinese Medicine
Michael Heinrich	Professor of Ethnopharmacology and Pharmacognosy, UCL
Xiaoyang Hu	Senior Advisor, NIHR Research Support Service
Alex Jacobs	CEO, British Acupuncture Council
Dan Jiang	Senior TCM Practitioner, Acu-Herb Consultant Sheffield
Martin John	President, Register of Chinese Herbal Medicine (RCHM), UK
Songxuan Ke	Principal of Asante Academy of Chinese Medicine, UK
Jeffrey B Kopp	Former Chief, Kidney Disease Section, NIDDK, NIH, USA
Lily Po Chuen Kot	Financier
Simon Ming-Yuen Lee	Chair Professor of Biomedical Sciences, Hong Kong Polytechnic University; President-Elect, GP-TCM RA
Ge Lin	Professor, School of Biomedical Science, The Chinese University of Hong Kong
Zhixiu Lin	Director and Professor, School of Chinese Medicine, The Chinese University of Hong Kong
Willow Liu	President, American Association of Chinese Herbs
Hong Lu	OBE, Chairman, CEDP Chinese Centre
Vivienne Lo	Professor, China Centre for Health and Humanity, UCL
Xin Lu	Executive-President of the World Traditional Medicine Forum

Aiping Lyu	Vice-President (R&D), Dean of Graduate School and Acting Dean of the School of Chinese Medicine, Hong Kong Baptist University
Nicky Robinson	Professor of TCM & Integrated Health, London South Bank University
Jiangang Shen	Professor, School of Chinese Medicine, The University of Hong Kong
Monique Simmonds	OBE, Professor and Director of Commercial Innovation Unit & Deputy Director of Science – Partnerships, Royal Botanic Gardens, Kew
Shulan Tang	Principal, Shulan College of Chinese Medicine, Manchester
Tiejun Tang	President, Chinese Medicine Alliance UK; Vice-Chair, World Traditional Medicine Forum
Duolao Wang	Chair in Biostatistics, Liverpool School of Tropical Medicine
Mei Wang	Founder and Chair, LU-European Center for Chinese Medicine and Natural Compounds, Institute of Biology, Leiden University; President, GP-TCM RA.
Tianjun Wang	President of the Academy of Scalp Acupuncture UK; Principal of the London Academy of Chinese Acupuncture; Chairman, UK TCM Forum
Xuanbin Wang	Director of Hubei Key Laboratory of Wudang Local Chinese Medicine Research, Hubei University of Medicine
Merlin Willcox	Clinical Lecturer & Principal Research Fellow, University of Southampton
Vivian T Wong	Honorary Professor, LKS Faculty of Medicine, The University of Hong Kong
Jidong Wu	Member of the Herbal Medicine Advisory Committee of the Medicines and Healthcare products Regulatory Agency (MHRA), UK
Mei Xing	President of Association of Traditional Chinese Medicine & Acupuncture, UK; Vice-President, World Federation of Acupuncture-Moxibustion Societies
Guanhu Yang	Clinical Professor, Specialty Medicine Department, Ohio University
Bin Yang	Honorary Professor in Renal Medicine, University of Leicester
Liuzhong Ye	President, Chinese Acupuncture and Herbal Medicine Alliance, UK
Bing-Sheng Yuan	Vice-President of the Federation of Traditional Chinese Medicine Practitioners, UK
Rosalyn Hui Zhang	Certified Specialist in Grief Recovery & Holistic Nutritionist, Entrepreneur, Author
Kaicun Zhao	Expert Advisor on herbal medicines, British Pharmacopeia Commission and Member of the Herbal Medicine Advisory Committee of MHRA, UK
Lian-Ting Zhao	Senior TCM Practitioner, Herbal China Health Beauty Clinic
Zhongzhen Zhao	Emeritus Professor of Chinese Medicine, Hong Kong Baptist University

*"Nothing in life is to be feared, it is only to be
understood. Now is the time to understand more, so
that we may fear less."*

Marie Curie (1867 - 1934)



KING'S CICM
CATALYSING INNOVATION

