

The contribution of Traditional, Complementary, and Integrative Healthcare (TCIH) to addressing Antimicrobial Resistance (AMR)

TCIH Coalition position paper on AMR

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Introduction

In recent decades, there has been a growing interest in the use of Traditional, Complementary, and Integrative Healthcare (TCIH)¹ in the prevention and treatment of infectious diseases. As multidrug-resistant bacteria continue to pose a pressing global challenge, TCIH strategies not only diversify therapeutic solutions but also contribute to reinforcing preventive actions and enhancing health maintenance and recovery strategies in response to Antimicrobial Resistance (AMR). While global policy responses and healthcare initiatives exist, additional efforts are essential to reinforce preventive actions, as well as to enhance health maintenance and treatment strategies.²

TCIH approaches to prevention and treatment of infectious disease draws upon broad historical use in many TCIH professions, already in high demand by millions of patients across the globe and increasingly integrated in healthcare systems. These broad TCIH practices, which are supported by a growing body of research, require a concerted effort to harness their potential and further include them into healthcare systems worldwide.³ Through its One Health approach⁴, TCIH offers a promising avenue to help mitigate AMR, emphasizing prevention and the holistic concept of human, animal, and environmental health by focusing on modifiable lifestyle risk factors, and supporting patient awareness, positive lifestyle choices, including nutrition and psycho-social factors such as stress.

This paper introduces the role of TCIH in addressing AMR, highlighting its potential to mitigate AMR. Additionally, we propose a set of actionable steps for policymakers, healthcare professionals, and researchers on how to integrate TCIH effectively into healthcare systems, contributing to a holistic approach to combat AMR and promote human health.

¹<https://iris.who.int/bitstream/handle/10665/312342/9789241515436-eng.pdf>

²<https://www.who.int/publications/i/item/9789240041387>

³<https://www.who.int/publications/m/item/who-traditional-medicine-summit-2023-meeting-report--gujarat-declaration>

⁴<https://www.who.int/news-room/questions-and-answers/item/one-health>

The role of TCIH in addressing AMR: Embracing the One Health perspective

As global efforts to combat AMR prioritize One Health approaches and cross-sectoral collaboration⁵, TCIH therapies offer valuable contributions to infection prevention and management. TCIH promotes holistic health, encompassing physical, mental, and social well-being. Furthermore, it places significant emphasis on inclusion, cultural and societal diversity, including Indigenous knowledge and individual preferences. TCIH provides expertise across the entire health spectrum, from prevention to recovery. These modalities are already embraced by millions worldwide, as recognized in the recently published Gujarat Declaration of 2023⁶ and G20 New Delhi Leaders' Declaration⁷.

Prevention: Health promotion and enhancing resilience

Prevention lies at the core of TCIH practices and modalities. These approaches prioritize health promotion, patient awareness and the enhancement of patients' health resilience against infectious diseases. By fostering overall health and well-being, TCIH can reduce the need for antibiotic treatments and prevent the relapse of chronic infections. These preventive measures include interventions such as dietary guidance, stress management techniques and prescriptions, and lifestyle adjustments.

Management: A holistic approach to treatment

In cases where healthcare interventions are needed, TCIH offers a comprehensive and holistic approach to disease management. In addition to conventional antibiotic treatments, TCIH provides a wide-range of non-antibiotic therapeutic options that have demonstrated potential in the treatment of simple, acute infections, in addressing chronic infections and preventing recurrence of infections. TCIH can help with infection prevention and control as:

- **Non-antibiotic treatment option:** Research suggests that TCIH approaches contribute to lower antibiotic prescription rates, e.g., in instances of infections such as respiratory, urinary, or skin infections.^{8 9 10 11} These efforts align with the broader AMR strategies of promoting innovative non-antibiotic treatments for infections, which, in turn, help with prudent use of antimicrobials.
- **Adjunct therapy in supporting standard treatments:** The integration of TCIH as an adjunct therapy alongside conventional treatments for infectious diseases is well-supported by historical use and empirical evidence¹². Research indicates that TCIH therapies enhance the overall effectiveness of antibiotic treatment, reduce relapse, and improve the well-being of patients.¹³

To maximize the impact of TCIH, policymakers and healthcare stakeholders should recognize TCIH as a valuable resource to diversify therapeutic solutions and improve broader health outcomes.^{14 15 16}

⁵<https://www.who.int/groups/one-health-high-level-expert-panel/meetings-and-working-groups>

⁶<https://www.who.int/publications/m/item/who-traditional-medicine-summit-2023-meeting-report-gujarat-declaration>

⁷https://www.g20.org/content/dam/gtwenty/gtwenty_new/document/G20-New-Delhi-Leaders-Declaration.pdf

⁸⁻¹¹See e.g., <https://doi.org/10.1016/j.eujim.2020.101068>, <https://doi.org/10.1089/jicm.2023.0001>, <https://doi.org/10.1186/s12906-019-2428-5>, <https://doi.org/10.1016/j.jaim.2017.10.012>

¹²See e.g., <https://doi.org/10.1016/j.eujim.2020.101191>

¹³See e.g., <https://doi.org/10.3390/antibiotics10020134>

¹⁴⁻¹⁶See e.g., <https://doi.org/10.1159/000448440> and <https://doi.org/10.3390/antibiotics10020134> or <https://pubmed.ncbi.nlm.nih.gov/35860018/> Although a growing body of research suggests the use of such therapies, more research investment and targeted frameworks are needed.



Integrating TCIH practices into AMR strategies and antimicrobial stewardship programs (ASPs) allows for a more holistic and comprehensive approach to health and well-being.

Education and Empowerment of Patients

Patient education on therapeutic options and promotion of responsible self-care practices are key in reducing antibiotic use and to preventing resistance spread¹⁷. TCIH practices and practitioners foster collaborative decision-making, to actively involve patients in healthcare choices¹⁸, with studies showing that medical providers trained in integrative medicine have lower antibiotic prescription rates.^{19 20} TCIH practices promote overall well-being, reduce infection risks, and encourage responsible antibiotic prescription and use.

Policy recommendations

In light of the considerations outlined above, the TCIH Coalition puts forth the following recommendations to enhance the role of TCIH to combating AMR and addressing infectious diseases:

- **Policy integration:** Include TCIH in international and regional policies and work plans related to AMR, infectious diseases, and One Health initiatives. This includes alignment with frameworks such as the WHO Global Action Plan on AMR²¹ and the EU One Health AMR Action Plan²² and their implementation.
- **National integration:** Promote the incorporation of TCIH within national health policies, National Action Plans (NAPs), and AMR-related guidelines, with a specific emphasis on adopting TCIH best practices.
- **Healthcare integration:** Encourage the integration of TCIH into primary healthcare delivery systems, fostering collaboration and knowledge exchange between TCIH practitioners and conventional healthcare providers through the development of specific guidelines.
- **Education and awareness:** Integrate TCIH in healthcare education and continuous AMR education programs to enhance understanding and utilization of TCIH approaches among healthcare professionals, practitioners, and researchers.
- **Research and development²³:** Allocate funding for research and development of TCIH therapies and products, focusing on assessing their effectiveness and safety as non-antibiotic prevention and treatment options.^{24 25 26} This can be done by:
 - Designing specialized and targeted research frameworks that facilitate the comprehensive evaluation of the efficacy of TCIH methodologies and products
 - Encourage local production of TCIH products where appropriate
- **One Health embrace:** Embrace a multi-sectoral One Health approach comprehensively across all levels and systems, with particular attention to preventive antibiotic usage in animal husbandry and waste management.

¹⁷<https://doi.org/doi:10.3122/jabfm.2020.06.200210>

¹⁸<https://doi.org/10.1016/j.eujim.2019.05.003>

¹⁹⁻²⁰See e.g. <https://dx.doi.org/10.1136/bmjopen-2017-020488> and <https://doi.org/10.1001/jama.2016.0275>

²¹<https://www.who.int/publications-detail-redirect/9789241509763>

²²https://health.ec.europa.eu/system/files/2020-01/amr_2017_action-plan_0.pdf



Conclusion

TCIH approaches offer a valuable perspective in addressing infectious diseases and the challenge of AMR by reducing the dependency on antibiotics, thereby preserving the efficacy of these critical antimicrobial drugs. To effect meaningful change, TCIH approaches must be fully recognized, promoted, and integrated into global AMR efforts, guided by the aforementioned considerations.

In summary, TCIH's contributions span prevention, management, and responsible antibiotic use, in line with the One Health approach. It serves as a non-antibiotic treatment option, complements conventional therapies, and educates and empowers patients, while encouraging responsible self-care practices. As we move forward in the fight against AMR and infectious diseases, it is crucial to recognize that TCIH is not a standalone solution but an integral part of a comprehensive approach. The collaboration, research, and integration of TCIH with conventional healthcare systems are essential for harnessing its full potential.

We, therefore, urge policymakers, healthcare providers, education institutions, and researchers to promote best practices and implement policies that support the integration of TCIH into healthcare systems and healthcare education. By doing so, we can collectively advance AMR prevention, ensure the continued effectiveness of antibiotics, and promote the holistic well-being of individuals and communities worldwide.

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²³See e.g., the TCIH AMR research agenda by the GIFTS-AMR (JPIAMR)

<https://www.b2match.com/e/research-on-tcih-strategies/components/34631/biYz4tsQRpZA>

²⁴⁻²⁶See e.g., <https://doi.org/10.1155/2019/5365608>, <https://doi.org/10.1016/j.eujim.2020.101194>, <https://doi.org/10.17236/sat00273>