Stanford



Stefan Thottunkal

Temporary Employee, Medicine - Primary Care and Population Health

Bio

BIO

Stefan Thottunkal is a physician in training, Stanford researcher, and policymaker whose work sits at the intersection of artificial intelligence, precision medicine, translational science, and public health innovation. He completed the M.S. in Community Health and Prevention Research at Stanford University as an IIE Quad Fellow, one of the world's most selective international research fellowships, where his thesis centered on computational pharmacogenomics and the use of data-driven LLM methods to advance precision prescribing.

His research focuses on translating innovation into clinically meaningful and implementation-ready health solutions, with particular interests in pharmacogenomics, chronic disease, and AI-enabled decision support. He is especially interested in how machine learning and large language models can be used not simply as technical advances, but as robust clinical tools that improve prescribing, strengthen care delivery, and incorporate human centered design principles to effectively integrate precision medicine in routine clinical practice.

At Stanford, he contributes to the Han Lab's research on advancing precision oncology in advanced non-small cell lung cancer, while helping lead NOURISH, a pioneering Stanford Medicine initiative reimagining cardiometabolic care through culturally tailored nutrition science, behavioral insight, and digital innovation. NOURISH advances a model of lifestyle medicine that preserves cultural relevance while applying rigorous scientific methods to improve metabolic health. By integrating culinary medicine with emerging technologies, the initiative is exploring how AI-enabled tools, personalized digital education, and interactive nutrition support systems can make evidence-based dietary guidance more adaptive, engaging, and scalable across diverse populations. His work in this space reflects a broader interest in how technology can help transform nutrition care from generic advice into a more personalized, culturally tailored, and behaviorally attuned form of preventive medicine.

In parallel with his research career, Stefan brings close to half a decade of experience advising the Australian Federal Government on major health and social policy initiatives. His international experience also includes mentoring hackathon teams in India and medical device development in Nigeria, where he contributed to dialysis device innovation and clinical trials design in resource-constrained settings. Together, these experiences reflect his broader commitment to advancing equitable, evidence-based, and culturally tailored global health innovation.

Publications

PUBLICATIONS

- **Evaluating Tumor Burden as a Predictive Biomarker for Epidermal Growth Factor Receptor Targeted Kinase Inhibitor Therapy in Advanced Non-Small Cell Lung Cancer.** *JCO precision oncology*
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- **Clinician Experiences at the Frontier of Pharmacogenomics and Future Directions.** *Journal of personalized medicine*
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- **What influences the implementation of health checks in the prevention and early detection of chronic diseases among Aboriginal and Torres Strait Islander people in Australian primary health care? Findings from an evidence mapping review.** *Health research policy and systems*
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- **Clinician Experiences at the Frontier of Pharmacogenomics and Future Directions** *Journal of Personalized Medicine*
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- **Outbreak response capacity of the Global Outbreak Alert and Response Network across WHO's South-East Asia and Western Pacific regions.** *Western Pacific surveillance and response journal : WPSAR*
  Parry, A. E., Campbell, S., Thottunkal, S., Mandal, P. P., Salmon, S.
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- **Prevalence of extra-pulmonary tuberculosis in Africa: A systematic review and meta-analysis.** *Tropical medicine & international health : TM & IH*
  Hailu, S., Hurst, C., Cyphers, G., Thottunkal, S., Harley, D., Viney, K., Irwin, A., Dean, J., Nourse, C.
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- **Pain and its interference with daily living in relation to cancer: a comparative population-based study of 16,053 cancer survivors and 106,345 people without cancer** *BMC CANCER*
  Joshy, G., Khalatbari-Soltani, S., Soga, K., Butow, P., Laidsaar-Powell, R., Koczwara, B., Rankin, N. M., Brown, S., Weber, M., Mazariego, C., Grogan, P., Stubbs, J., Thottunkal, et al
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