**A/Prof. Sandeep Reddy** MBBS DPH MSc MMgmt PhD FAIDH CHIA

**Career Summary**I am an academic medical informatician with wide-ranging health informatics and healthcare management experience coupled with special interest and expertise in artificial intelligence and health technology evaluation. Achievement of success in my past roles has been because of my passion, domain expertise, humanistic leadership style and ability to collaborate with various stakeholders.
 **Qualifications**
**2016** PhD (Hospital Data Analytics), Flinders University, Australia.

**2005** MSc, University College London, UK

**2000** Bachelor of Medicine and Surgery, Karnatak University, India

**Health Informatics Certification
2017-Present** Certified Health Informatician Australasia (CHIA), Australasian Institute of Digital Health

**Medical Informatics Certificates
2021** AI in Healthcare Specialisation**,** Stanford University **2019** Data Science in Stratified Healthcare and Precision Medicine, University of Edinburgh

**2019** Health Informatics and Technology in Decision Making, Doane University

**2017-2018** Machine Learning Certification, SimpliLearn
 **Fellowships
2020-Present:** Fellow, Australasian Institute of Digital Health

**2019-Present:** Fellow, European Academy of Translational Medicine Professionals

**2016-Present**: Practitioner Member, Faculty of Public Health, Royal College of Physicians, UK

**2013-Present**: Fellow, Australasian College of Health Service Management, Australia

**2019-Present:** Fellow, Higher Education Academy, UK

**Medical Certifications
Indefinite** ECFMG Medical Certification, USA

**2015-2017:** Australian Health Practitioners Registration Authority- Medical Registration

**2000-Present** Karnataka Medical Council, India

**Work History

2016-Present: Associate Professor,
School of Medicine, Deakin University, Geelong**

* I am currently engaged in research in the areas of medical informatics (*application of artificial intelligence techniques in delivery of healthcare*) and program evaluation (*application of theory-driven evaluation methodologies to assess health services*)

**2021-Present: Working Group Member (Health and Medical Informatics Education)
International Medical Informatics Association, Geneva, Switzerland

2019-Present: Member, Digital Health Roster of Experts
World Health Organisation, Geneva, Switzerland

2019-Present: Member, Focus Group on AI for Health
World Health Organisation, Geneva, Switzerland

2019-2020: Member, AI Special Interest Group
Faculty of Clinical Informatics, London, United Kingdom

2022-Present: Editorial Board Member
Future Medicine AI, United Kingdom**Role involves reviewing submitted manuscripts and developing articles for publication in print and online formats.

**2021: Editorial Board Member
Telehealth and Medicine Today, Connecticut, USA**Role involves reviewing submitted manuscripts and input into international and regional topics of interest.

**2020-Present: Editorial Board Member
Journal of Artificial Intelligence in Medicine, Hong Kong**Role involves reviewing submitted manuscripts and input into international and regional topics of interest.

**2014-2016: Senior Research Fellow
Centre for Remote Health, Flinders University, Alice Springs**

* Leadership and participation in a team coordinating the revision and production of electronic and paper-based versions of Clinical Guidelines.
* Made a significant contribution to relevant academic research activity including project reporting and publications, and development of research collaborations, as appropriate.
* Provided high-level advice to Clinical Guidelines production process, in terms of innovation, promotion, quality improvement and sustainability.
* Contributed to broader Flinders University research and teaching activities.

 **2016-2017: ChairpersonCentral Australian Human Research Ethics Committee, Alice Springs**Oversaw the functions of the Central Australian Human Research Ethics Committee in accordance with the National Statement on Ethical Conduct in Research.

**2011-2014: Principal Advisor, Acute Care Policy and Service Development/ System Performance, Department of Health, Northern Territory Government**- Coordinated and oversaw Australian Government health funding agreements with the Northern Territory.

- Presided over the development of acute care and quality indicators for the department, contributing to the establishment of a system performance framework.

- Designed and implemented a robust work plan to respond effectively to Hospital Performance Reporting on both a local and national scale.

- Devised and executed the NT Implementation Plan for the National Partnership Agreement on Improving public hospital services.

**2009 – 2011: Senior Public Health Analyst
Hutt Valley District Health Board, Lower Hutt, New Zealand**

* Oversaw the business and financial planning of the service, while developing automated systems for reporting and the planning of staff requirements.
* Executed a Clinical Governance Framework for the service, spearheading its implementation for a regional health service.
* Spearheaded the implementation plan for the ‘Keeping Well Population Health’ project, along with undertaking exhaustive reviews of various health contracts.
* Designed evaluation criteria for the review of several tenders submitted regarding the health project, while participating in the development of guidelines for Hospital Restraint Minimization.

**2007 – 2009: Public Health Analyst
West Coast District Health Board, New Zealand**

* Spearheaded the project to introduce the HPV Immunization Program to the West Coast, along with developing the West Coast Environmental Health Report.
* Coordinated the initial stage of the West Coast Needs Environmental Health report while leading the project to introduce the Before School Check Program on the West Coast.
* Provided trenchant advice to the Planning and Funding Division in the realm of population health data as well as supporting the Maori Health Unit in the preparation of the District Annual Plan.
* Delivered various lectures on Population Health to medical and post-graduate nursing students, as well as evaluating various population health proposals submitted to the Ministry of Health.

 **2003 – 2007: Professional Practice Fellow | Teaching FellowUniversity of Otago, Dunedin, New Zealand**Delivered lectures and small group tutorials to medical and paramedical students vis a vis basic medical sciences and systems integration clinical topics.
 **2000 – 2002: Medical DoctorPrimary Care and Preventive Medicine Practice, Karnataka, India**Provided primary medical care to rural clients in various locations.

**1999 – 2000: House Officer
KMC Hospital and Dharwad District Hospital, Karnataka, India**Completed various clinical rotations across diverse departments in both hospitals.

**Health IT/IT Projects**

 **2016-2020:** ChiefArchitect and Designer, Program Evaluation and Compliance Audit Software.
[www.evalitica.com](http://www.evalitica.com)

**2014-2015**: Lead, Component Content Management System, Change Management Project, Flinders University. <http://journals.sagepub.com/doi/abs/10.1177/1460458215616264>

**2012-2014**: Lead, Development of acute care performance indicator dashboard, NT Government Department of Health.

**2011-2013**: Lead, Pharmacy Information System Management Business Case, Royal Darwin Hospital, NT.

**2010-2011**: Lead, Setting up of Business Reporting IT System, Regional Public Health, Wellington, New Zealand

**Research Experience**

* **2019-2020:** Lead Investigator, *Evaluation of Facial Recognition Technology in Pharmacies*, Victoria, Australia.
* **2019-2020**: Lead Investigator, *Evaluation of the Digital Health Capability Maturity Model*, Victoria, Australia.
* **2017-2018:** Co- Lead Investigator, E*valuation of a CVD Screening Quality Intervention Program*, Deakin University, Victoria.
* **2015-2017:** Principal Researcher, *Realist Evaluation of use of clinical guidelines in remote primary care context.* Centre for Remote Health*,* Flinders University.
* **2015-2017:** Lead Researcher, Systematic Review, *Do National Health Reforms improve access to emergency department and elective surgery*? Multi-center collaboration.
* **2011-2016:** Principal Researcher, *Realist Evaluation of a hospital program to meet national emergency department performance indicators.* Flinders University, South Australia.
* **2010-2011:** Principal Researcher, *Barriers and opportunities associated with intersectoral collaboration in the context of long-term conditions program implementation in New Zealand*, Massey University, New Zealand.
* **2006:**Principal Researcher, *Antiretroviral medication price and other factors and their influence on ART coverage in post-conflict situations- an analysis*, University of Copenhagen, Denmark.

**Peer Reviewed Publications**
* Reddy, S., Mito, M. and Feldschuh, M. (2022). A Qualitative Evaluation of the Use of Facial Recognition Technology for Opioid Substitution Treatment in Community Pharmacies. *International Journal of Digital Health*, 2(1), p.5.
* Nguyen, T.T. et al (2022). Origin of novel coronavirus causing COVID-19: A computational biology study using artificial intelligence. *Machine Learning with Applications*, 100328-100328
* Reddy S. (2022). Explainability and artificial intelligence in medicine. *The Lancet. Digital health*, *4*(4), e214–e215.
* Goergen, S. K., Frazer, H. M., & **Reddy, S**. (2022). Quality use of artificial intelligence in medical imaging: What do radiologists need to know? *Journal of medical imaging and radiation oncology*, *66*(2), 225–232.
* Reddy, S et al. (2021).Evaluation framework to guide implementation of AI systems into healthcare settings. *BMJ Health & Care Informatics*2021;**28:**e100444.
* Reddy, S et al. (2021). Use and validation of text mining and cluster algorithms to derive insights from Corona Virus Disease-2019 (COVID-19) medical literature. *Computer Methods and Programs in Biomedicine Update*, *1*, 100010.
* Lip, S; Mccallum, L; **Reddy, S**; Chandrasekaran, N; Tule, S; Bhaskar, R K; Padmanabhan, S. (2021). Machine Learning Based Models for Predicting White-Coat and Masked Patterns of Blood Pressure. Journal of Hypertension: Volume 39 - Issue - p e69
* Reddy S. Artificial intelligence and healthcare—why they need each other?
J Hosp Manag Health Policy 2020.
* Kane, S., Dayal, P., Mahapatra, T., Kumar, S., Bhasin, S., Gore, A., Das, A., **Reddy, S**., Mahal, A., Krishnan, S., & Kermode, M. (2020). Enabling change in public health services: Insights from the implementation of nurse mentoring interventions to improve the quality of obstetric and newborn care in two North Indian states. *Gates Open Research* 2020.
* Reddy, S., Allan, S., Coghlan, S & Cooper, P. (2019). A governance model for the application of Artificial Intelligence in Healthcare. *Journal of the American Medical Informatics Association.*
* McDaniel, C., Rooholamani, SN., Desai, AD., **Reddy, S.,**& Marshall, SG. (2019). A Qualitative Evaluation of a Clinical Faculty Mentorship Program Using a Realist Evaluation Approach. *Academic Pediatrics*, Aug 2019.
* Reddy, S. et al. (2019). Evaluation of clinical quality improvement interventions: feasibility of an integrated approach. BMC Pilot and Feasibility Studies.
* Reddy, S., Fox, J. & Purohit, M.P. (2018). Artificial Intelligence-enabled healthcare delivery*. Journal of Royal Society of Medicine.*​
* Reddy, S. (2017). Process Evaluation: Unlikely. *BMJ Open*. [Published e-letter]
* Reddy, S., Jones, P., Shanthanna, H., Daemarell, R. & Wakerman, J. (2017) A Systematic Review of the Impact of Healthcare Reforms on Access to Emergency Department and Elective Surgery Services: 1994-2014. *International Journal of Health Services*.
* Reddy, S., Orpin, V., Herring, S., Mackie-Schneider, S. & Struber, J. (2017) Use of Clinical Guidelines in Remote Australia-A Realist Evaluation. *Journal of Evaluation in Clinical Practice*.
* Reddy, S. (2017). Exploration of funding models to support hybridization of Australian Primary Health Care Organisations. *Journal of Primary Health Care*.
* Reddy, S. (2017) Remote Hospital Reform in the context of Australian Healthcare Reforms. *International Journal of Hospital Research*.
* Reddy, S., Carey, T., and Wakerman, J. (2016) A Realist Case Study of a Regional Hospital’s Response to Improve Emergency Department Access in the Context of Australian Healthcare Reforms. *Health Services Research and Managerial Epidemiology*.
* Reddy, S. (2016) Integrated Health Care: it’s time for it to blossom. *Australian Health Review*.
* Reddy, S., Wakerman, J., Westhorp, G., and Herring, S. E. (2015). Evaluating impact of clinical guidelines using a realist evaluation framework. *Journal of Evaluation in Clinical Practice*.
* Reddy, S., Herring, S., & Gray, A. (2015). Identifying an appropriate Content Management System to develop Clinical Practice Guidelines: A perspective. *Health Informatics Journal*.
* Reddy, S. (2015). Realist evaluation of a remote hospital program in the context of Australian health care reforms. *International Journal of Healthcare Management*.
* Reddy, S. (2015). ‘Can Australia’s clinical practice guidelines be trusted?’ *Medical Journal of Australia*.
* Reddy, S. (2007). International Health Regulations: more than a challenge? *Lancet Online*. Vol.369, No: 9575. Published online on May 31, 2007.

**Books**

* Reddy, S. (Editor) (2021). Artificial Intelligence-Applications in Healthcare Delivery. *Routledge*, USA.
* Reddy, S., & Tavares, A.I. (Editors) (2020). Evaluation of Health Services. *IntechOpen,* London.
* Reddy, S. (2019). AI in Healthcare-Theory to Application. *Kindle Publication, Amazon*. USA.
* Reddy, S. (2017). Finish your PhD. *Kindle Publication, Amazon*. USA.
* Sandeep. (2006). Ace USMLE step 2 clinical skills. *Peepee Publishers*. India.

**Book Chapter**
* Reddy, S & Cooper P (2021). Health Workforce Learning in Response to Artificial Intelligence. In: Butler-Henderson K, Day K, Gray K, editors. The Health Information Workforce : Current and Future Developments. Cham: Springer International Publishing; 2021. p. 129-37.
* Reddy, S, (2020). ‘Algorithmic Medicine’ chapter in ‘Artificial Intelligence-Applications in Healthcare Delivery’. *Routledge*, USA.
* Reddy, S. (2020). ‘Introductory Chapter: Evaluation of Health Services’ chapter in ‘Evaluation of Health Services’, 1st edition, *IntechOpen*, London.
* Reddy, S. (2019). ‘Digital Health and the Divide’ chapter in ‘Understanding the Australian Healthcare System’, 4th edition, *Elsevier*.
* Reddy, S. (2018). ‘Use of Artificial Intelligence in Healthcare Delivery’ chapter in ‘E-Health’ *IntechOpen*, London.
 **Other Publications (select)**
* Reddy, S. (2015). Towards better health care integration. *The Health Leader*, Vol.2, No.1, pp.30-31, Sydney.
* Reddy, S. (2010). What influences our health? *Health Guru Magazine*, New Zealand. April 2010.
* Reddy, S. (2009). Asians are prone to fatal diseases. *Indian News Link Magazine,* New Zealand. February 2010.
* Reddy, S. (2007). They need aid- NGO’s working for HIV prevention and treatment. *Global Indian, New Zealand.* Issue 31. June 2007.
 **Conference Presentations**
* Reddy, S. (2021). Using AI for medical diagnostics. AI Hospital Conference, Sydney
* Reddy, S. (2021). *How AI can be used to manage Dementia? Dementia Care and Mental Health Forum*, Australia.
* Reddy, S. (2020). *Explainability of AI models: Why it matters in medicine and what is being done to address this?* Digital Health Institute Summit, Melbourne.
* Reddy, S. (2020). *Explainability-A cornerstone for AI adoption in Medicine*, Medical Intelligence Group Summit, California, USA.
* Reddy, S. (2019). *Democratising evaluation through innovative approaches*. Hawaii Pacific Evaluation Association, Honolulu, USA
* Reddy, S. (2019). *How to mitigate the risk in the application of AI in Healthcare: The critical importance of governance frameworks.* AMSAH conference, Sydney, March 2019.
* Reddy, S. (2018). *Role of human clinicians in an intelligent health system* First Annual Conference on Artificial Intelligence in Healthcare, Dubai, UAE, April 2018.
* Reddy, S. (2017). *How should healthcare be delivered into the future?* Third Digital Hospital and Healthcare Innovations Summit, Melbourne, October 2017.
* Reddy, S. (2017). *Healthcare Management Education and Training.* Community Doctors Annual Academic Conference, Hangzhou, China, September 2017.
* Reddy, S. (2015). *Evaluating complex phenomenon-do regular evaluation methodologies suffice?* SHAPE Symposium 2015, Sydney, Jul 2015.
* Reddy, S. (2014). *Employing Content Management System to publish Clinical Guidelines-what do we need to know?* Poster Presentation, 2014 Australasian Health Care Management Conference, Adelaide, Australia
* Reddy, S. (2014). *How has hospital occupancy and patient demand influenced emergency department performance?* 2014 Health Management Research Alliance Conference, Gold Coast, Australia
* Reddy, S. (2013). *How has public hospital performance fared in the context of national health reforms?* 2013 Royal Australasian College of Physicians – CARPA Conference, Alice Springs, Australia.
* Reddy, S. (2008*). Delivering against odds-The West Coast Story: A population health approach to address health challenges*. 2008 Public Health Association National Conference, Waitangi, New Zealand

 **Grants/Payments (To date over 1 million AUD)**

* **2022:** Western Victorian Primary Health Network, Digital Health Strategy and Digital Health Literacy Project: $70,000
* **2020:** National Mental Health Commission, Evaluation of the Australian Mental Health Fellowship Program: $84,000
* **2020:** Barwon Health, A feasibility study into data linkage to examine youth mental health trends: $41,818
* **2019:** Strong Room Technology, *Evaluation of Facial Recognition Technology in Pharmacies*: $9000
* **2019:** Department of Health and Human Services, Victoria*, Digital Health Capability Maturity Model Evaluation*: $130,000.
* **2017:** Kardinia Health, Geelong*. Quality Improvement Initiative Evaluation*: $30,000.
* **2015-2016:** Australian Government, *Primary Health Care Manuals Evaluation*: $705,068.
* **2015-2016:** NT Medicare Local, *Tropical Health Orientation Manual Review*: $45,000.