Indian Health Outcomes Public Health & Economics Research Centre

IHOPE

PUBLIC HEALTH

BIG DATA

POLICY

HEALTH ECONOMICS

CLINICAL RESEARCH

COLLABORATION

MULTI DISCIPLINARY

MAKING A DIFFERENCE

DIVERSITY

COMMUNITY

LEARNING HUB

IHOPEJO

IMPACT

QUARTERLY NEWSLETTER

March 2023

3rd Anniversary Edition

IIM AHMEDABAD

LVPEI So that all may see LV Prasad Eye Institute

IIPH INDIAN INSTITUTE of PUBLIC HEALTH ESTABLISHED BY PHFI HYDERABAD

NEW JOINING

WELCOME TO OUR TEAM

Raghul joins as a Senior Research Assistant at Indian Institute of Public Health, Hyderabad, India. He has completed Bachelor's in Clinical Optometry and a Master's in Public Health with a specialization in Occupational and Environmental health from Sri Ramachandra University, Chennai. He was also selected for six months of "Public health Research Fellowship" at Founation for People-Centric Health Systems, New Delhi. His research Interests are community Eye Health and evidence sysntheesis.

MESSAGE FROM DR.RAJA NARAYANAN, PI OF IHOPE

Happy 3rd anniversary! It has been three incredible years since we embarked on this journey together, and I am immensely proud of everything we have accomplished as a team. Our dedication to advancing public health through innovative research has remained unwavering, and I am excited about what the future holds for us.Over the past three years, we have made significant progress in achieving our mission of building a world-class clinical and public health research centre that addresses some of the significant health challenges facing India. Our partnerships with Indian Institute of Public Health Hyderabad, and Indian Institute of Management Ahmedabad, have allowed us to leverage our diverse expertise to make a meaningful impact on public health.Our research has produced ground breaking insights into the determinants of health and the economic burden of disease in India, and we have disseminated our findings through high-quality publications, conferences, and engagement with policymakers.

As we celebrate our third anniversary, I want to express my appreciation to the entire IHOPE family. Your commitment, hard work, and passion have been critical to our success, and I am grateful for your contributions. I would also like to thank our funders, the Wellcome Trust/DBT India Alliance, for their support and confidence in our vision.Looking ahead, I am confident that we will continue to make significant strides in advancing public health research in India, specifically through standard treatment guidelines. We will continue our collaboration with NICE International, UK, and the NHA, India and I am excited about the opportunities that lie ahead.Once again, congratulations on our 3rd anniversary, and I look forward to celebrating many more milestones together.

3rd ADVISORY BOARD MEETING

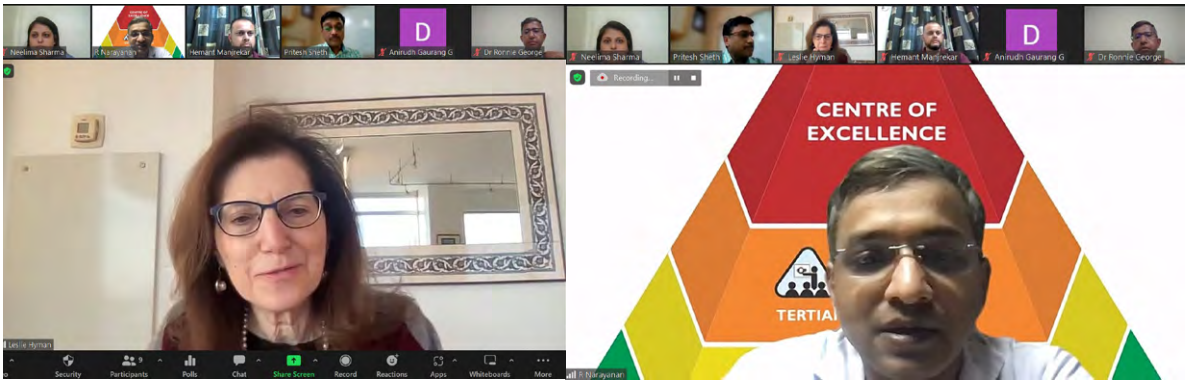
Dr Rao expressed his appreciation at the 3rd Advisory Board Meeting. He emphasized the key characteristic of IHOPE as an unparalleled entity with a team consisting of members from various disciplines and institutions working collaboratively.

Dr. Narayanan presented a concise summary of IHOPE's achievements in the previous two years. He emphasized the organization's key objectives, which involve establishing a self-sufficient hub for generating knowledge in public health and clinical research using Big Data, as well as cultivating top talent in Outcomes Research and Health Economics within the country.

Dr. Vipin emphasized the significance of IHOPE's contribution in promoting the value-based care system. Alongside Ophthalmology, IHOPE has been actively involved in collaborating with maternal and child health and oncology teams. Moreover, IHOPE has been instrumental in showcasing the digital transformation of healthcare. Dr. Vipin's expertise in building an EMR system has led to invitations from organizations such as Fernandez Hospital and National Cancer Grid.

Expressing his gratitude, Dr. Murthy extended his thanks to the entire board who generously shared their time and expertise by asking valuable questions that helped steer the team towards success. He earnestly looks forward to the possibility of a physical collaboration amongst the team this year.

ANNUAL IHOPE JOURNAL MEETING



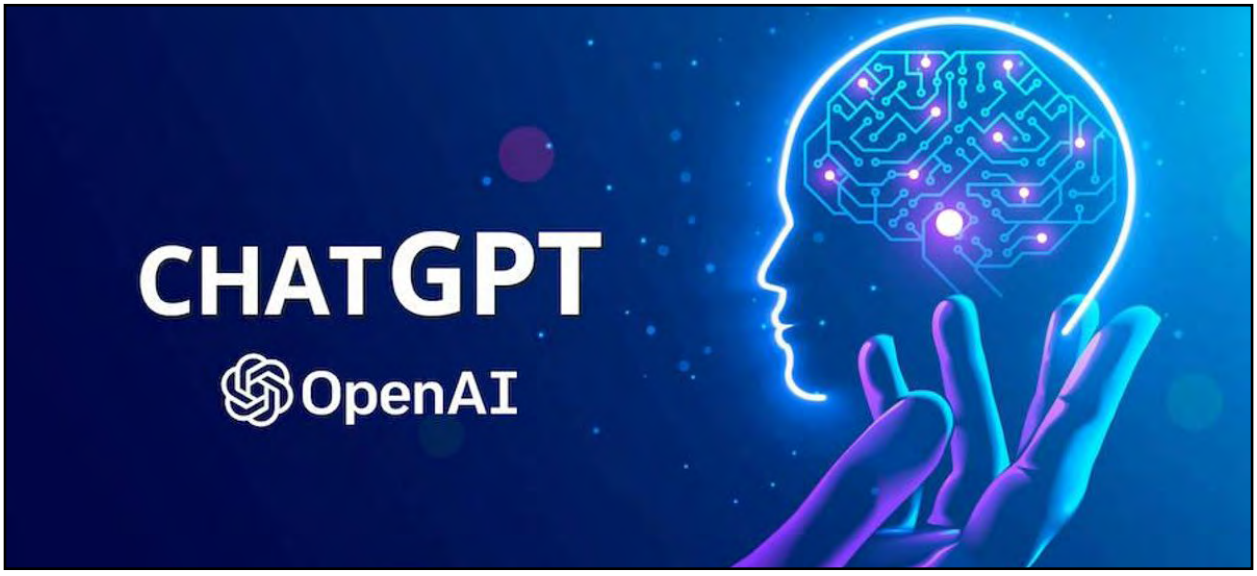
This January, the I Hope Journal of Ophthalmology held their yearly meeting to take stock of their goals and achievements. .The annual meeting provides valuable insights into how the journal operates, outlining ideas on how they can better serve their readers and discussing new opportunities to further their mission.

It has been a great pleasure to collaborate with the National Institute for Health and Care Excellence (NICE). NICE is a world-renowned organization that focuses on providing high-quality healthcare services. Through our collaboration, we have been able to access evidence-based guidance and resources which have enabled us to provide the best possible care for our patients. We are grateful for the support that NICE has provided us, and we look forward to continuing our partnership in the future.

CONGRATULATIONS

On the occasion of India's 74th Republic Day, the UK Government in London presented the 75 at 75 UK Achievers Honors for Cheveners to Dr. Vipin, the Co-Principal Investigator at IHOPE.

WE ASKED CHATGPT ABOUT IHOPE



India's land of diverse hue,
Where health outcomes need a breakthrough,
A center blooms with hope anew,
The IHOPE, with a mission true.

The Wellcome Trust and DBT,
Empower this research entity,
With funds to build a legacy,
In health, economics, and policy.

Three institutions collaborate,
To bring their expertise to create,
A hub for research, innovate,
And improve health outcomes in this state.

L.V. Prasad Eye Institute,
Indian Institute of Public Health ignite,
The IHOPE's vision to excite,
And bring their knowledge to new heights.

Indian Institute of Management,
Ahmedabad, with their acumen,
Supports the center's bold ambition,
To drive change with conviction.

In this pandemic year of trial,
The IHOPE's light shines with a smile,
With solutions, they go the extra mile,
To ease the burden, lift the dial.

May this center, with its heart and soul,
Bring forth new knowledge, make us whole,
Transform health care, make it role,
For every Indian to have a goal.

The IHOPE's journey has begun,
A beacon for health research to stun,
With hope, the future's bright and fun,
For India's health, for everyone.

ARTIFICIAL INTELLIGENCE IN PUBLIC HEALTH

Artificial Intelligence (AI) is a technology that imitates the human intelligence process to observe, interpret and make complex decisions with minimal human interaction to achieve a given goal. AI will make people work easier by increasing their capacity in terms of thinking, communication, and decision-making. AI increasingly becoming a feature of all domains including the public health field to detect and prevent diseases among the population. It has been playing a significant role in all six core functions of public health - **Health Promotion, surveillance, health protection, population health assessment, disease and injury prevention, and emergency preparedness.**

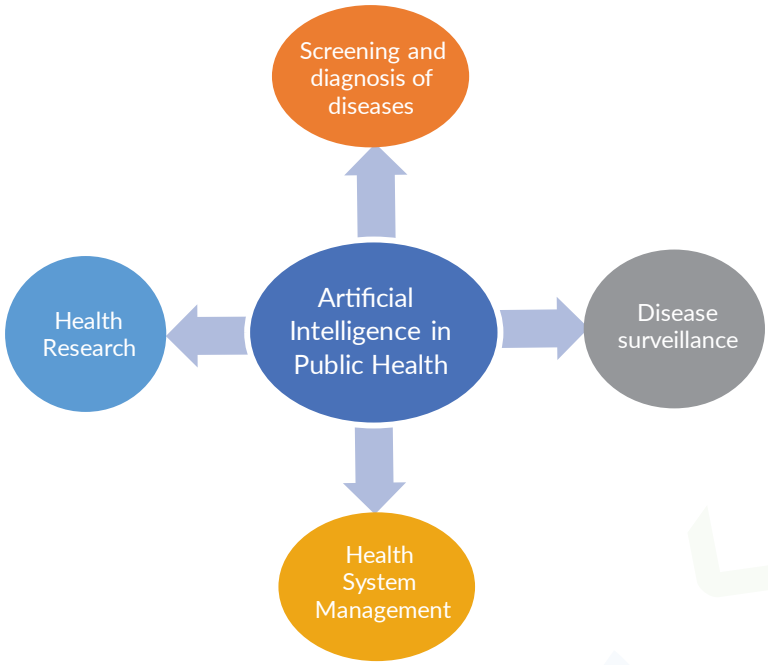


Fig 1: *Avenues for digital transformation in public health*

AI-assisted technologies for screening and diagnosis of diseases using captured medical images are evolving. This technology is commonly used in the ophthalmology field to screen and diagnose the high incidence of eye diseases such as diabetic retinopathy, age-related macular degeneration, glaucoma, and retinopathy of prematurity. Digital diagnostics is a leading healthcare technology company that developed an algorithm called IDx-DR

which was the first algorithm approved by the food and drug administration (FDA) for the detection of diabetic retinopathy in 2018. This algorithm is incorporated with a non-mydriatic retinal camera and the captured images are sent to a cloud-based server for diabetic retinopathy grading. National Institution for Transforming India (NITI Aayog) is working on a pilot project in collaboration with Microsoft and Forus Health to explore the use of AI for the early detection of diabetic retinopathy at the primary level. AI applications ensure the accessibility and affordability of healthcare among the population leading to universal health coverage.

Surveillance is another area in public health that has greatly benefitted from AI technologies. In general, public health surveillance is used to detect and predict infectious disease outbreaks and identify health problems in the community by analyzing various data sources. Population health surveys, hospital data, and public health reporting systems are the most common data sources for public health surveillance methods. Other than the above-mentioned data sources, AI applications enable public health practitioners to make use of other data sources such as social media resources, official reports, media reports, and Twitter data for surveillance purposes. “SENTINEL” is a syndromic surveillance tool that analyzes over 1.8 million tweets a day to predict disease occurrence and outbreaks in real-time.

AI applications were effectively utilized in many ways to tackle the COVID-19 pandemic situation in India. They were mainly used in screening, contact tracing, social distancing and treatment, and remote monitoring of COVID-19 patients. A Mumbai-based researcher developed an AI tool that was used to detect COVID-19 patients through voice-based diagnosis using a smartphone app. The government of India also developed an app called “Aarogya Setu” which was used to track the movement of users during the COVID-19 lockdown in India. Thalamus Irwine an India-based start-up company developed an AI-based serosurvey platform that analyzed one crore COVID-19 samples in one week. The state governments in India also developed separate AI tools to track the movement of COVID-19 suspects in quarantine in their respective states.

Like all other technologies, AI also has some disadvantages including unethical collection and use of data, algorithmic biases, and cyber security threats. In resource-limited countries like India, it is difficult to train AI algorithms due to the availability of less quality health data. Many healthcare providers in India do not use electronic medical record systems which makes the process even more challenging. Other factors such as the digital divide, training issues, high cost and inadequate framework, and regulatory weakness prevent the effective implementation of AI in public health. It is also important that healthcare decisions based on AI applications should have a rationale and be explainable.

Finally, the Government must initiate public-private partnerships and enact the laws and legislations related to AI and health. (1)

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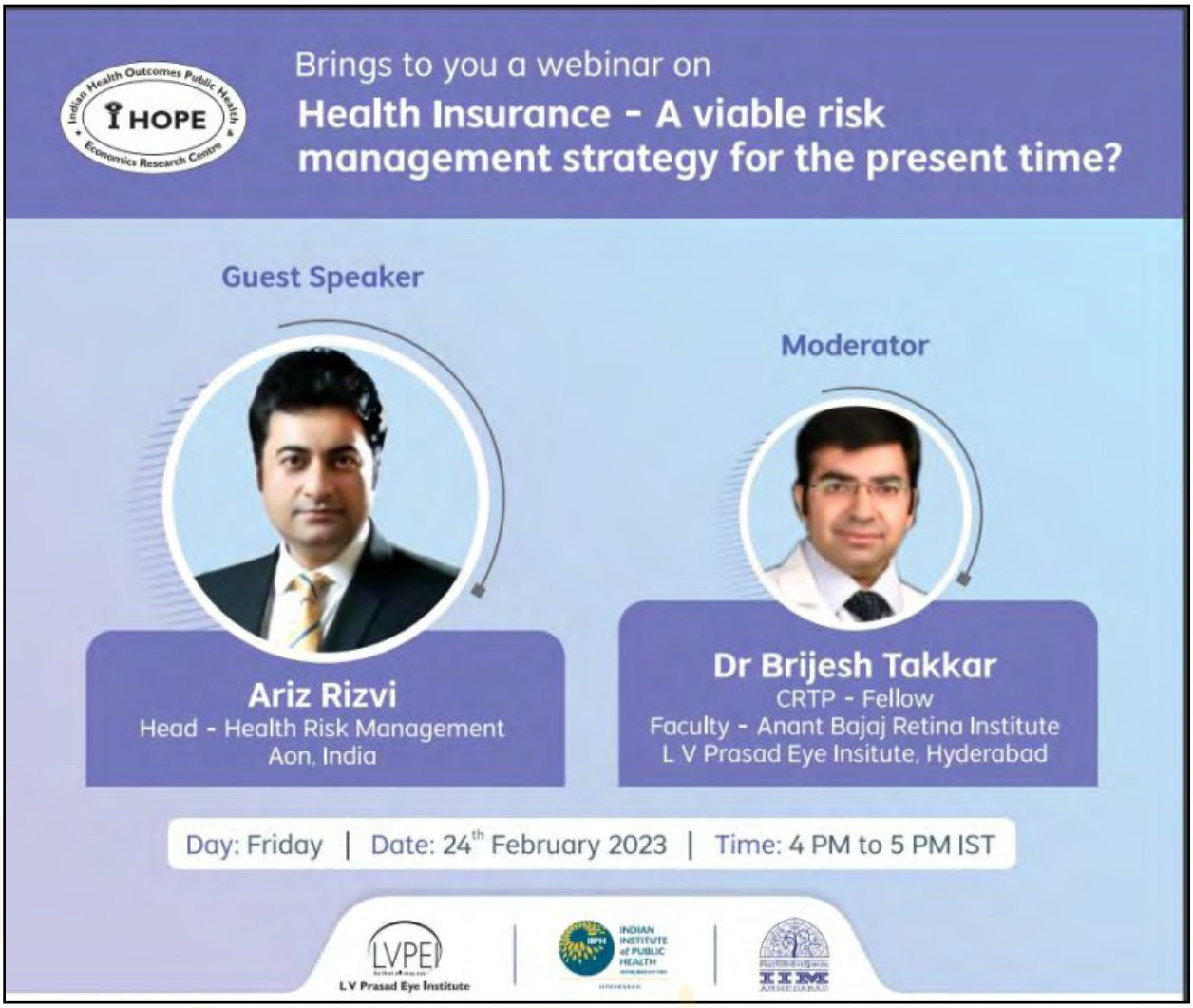
Written by

Raghul D

Research Associate, IIPH

WEBINARS IN THE LAST QUARTER

On the occasion of Republic Day, IHOPE had organised an exclusive webinar on "Relevance of Kindness Research for Global Health & Beyond." Professor Robin Banerjee, Head of School (Psychology) at the University of Sussex as our guest speaker.



Very informative webinar on Health Insurance – A viable risk management strategy for the present time, was given by Ariz Rizvi. The session was very informative and interactive.

The webinar explored the importance of patient safety and patient reported harm. We'll discuss why it's critical for healthcare providers to understand the dangers associated with patient care, and how they can take steps to protect patients from potential harm.

CALL FOR PAPERS

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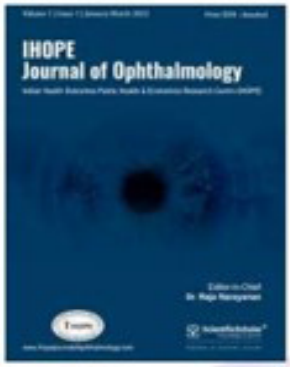
IHOPE Journal of Ophthalmology

CALL FOR PAPERS



OPHTHALMOLOGY, RELATED TO BIG DATA ANALYSIS, HEALTH ECONOMICS, CLINICAL AND PUBLIC HEALTH RESEARCH IN EYE HEALTH.

IHOPE Journal of Ophthalmology
Review Latest Developments in the field of original works and findings that contribute to the advancements in the field of ophthalmology, related to big data analysis, health economics, clinical and public health research in eye health.
Frequency of publication: Triannual | Language of publication: English

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RESEARCH APPRENTICESHIP PROGRAM

UPCOMING EVENTS


2023
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29 & 30
SEPTEMBER, 2023
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