Enhancing the efficiency of philanthropic support through use of AI: Experience of Indian Cancer Society

N. Khanna[1], T. Vora[2], S. Patkar[1], M. Bhandare[1], G. Shrivastava[3], N. Ramarajan[3], V. Bamne[4], R. pagare[4], S. Chawhan[4], K. Swami[5], R. Thippeswamy[6], V. Dhamankar[4], A. Rawat[4], A. Gokarn[7], U. Thorat[4]

[1]Tata Memorial Hospital, Radiation Oncology, Mumbai, India, [2]Princess Margaret Cancer Centre, Medical Oncology, Toronto, Canada, [3]Navya Network, Cambridge, United States, [4]Indian Cancer Society, Mumbai, India, [5]Aster CMI Hospital, Bengaluru, India, [6]HCG Hospital, Bengaluru, India, [7]Tata Memorial Hospital, Medical Oncology, Mumbai, India

Category: Advocacy and policy report

Main theme: Theme 3 – Healthcare systems & policies

Subtopic: Artificial intelligence

Title: Enhancing the efficiency of philanthropic support through use of AI: Experience of Indian Cancer Society

Abstract text: Background and context: Since inception (2011), Indian Cancer Society Cancer Cure Fund (ICS-CCF) has contributed $24 million to cover the treatment costs of ~ 11500 underprivileged patients across 17 empanelled hospitals in India. A Due Diligence Team (DDT) of clinical experts review every beneficiary application for compliance with standardized treatment guidelines, cure rates and applied cost as per the ICS-CCF approval criteria. The applications are then forwarded to the Governing Advisory Council (GAC) for final decision. GAC panel consists of medical and non-medical members.

Aim: To augment and scale up this process, ICS-CCF evaluated the use of Artificial Intelligence (AI) in reviewing the applications for recommendation (Prior-Authorizations).

Strategy / Tactics: Navya AI platform is a clinically validated AI model that matches clinical data of beneficiary applicants (Navya AI Input) with available clinical evidence and expert recommendations/ guidelines, adapted to the ICS-CCF approval criteria (Navya AI Output). The applications where the input and output match are approved. Applications with insufficient clinical information (inadequate Input), input/output mismatch or inability to fulfil the ICS-CCF approval criteria are referred to the DDT for a case by case review.

Programme / Policy process: The DDT, after review of referred cases, would recommend further action. Concordance is assessed between Navya and GAC decisions. DDT's time to review an application is recorded. The DDT review is weekly and GAC review is bi-monthly.

Outcomes: From February 2021 to March 2022, 2388 beneficiary applications were reviewed by Navya.Of these 78.8% (1872/2388) of applications were "recommended", 0.8% (18/2388) were "rejected" and 20.9% (498/2388) were "referred to DDT" by Navya. The concordance between Navya and GAC was 99.7% (1867/1872) for authorizing and 94.4% (17/18) for rejecting a beneficiary application for sanction.DDT spends an average of 3 minutes on each application referred by Navya. On an average, Navya forwards 32 applications to GAC directly, potentially saving 96 minutes/week of the DDT clinician's time.

What was learnt: (if relevant, please also detail here the potential of replicability) Navya, a clinically validated AI system can review and assess majority (~80%) of beneficiary applications for recommendation or rejection with 99% concordance with the GAC, thus saving DDT expert's time. As the way forward, the AI model and its role should be assessed in improving the quality and efficacy of authorization process for philanthropic funding and health insurance organizations prospectively.

Have you got a Conflict of Interest?: No

1. I confirm that I previewed this abstract and that all information is correct. I accept that the content of this abstract cannot be modified or corrected after submission deadline and I am aware that it will be published exactly as submitted.: Yes

2. Submission of the abstract constitutes my consent to publication (e.g. conference website, programs, other promotions, etc.): Yes

3. I herewith confirm that the contact details saved in this system are those of the corresponding author, who will be notified about the status of the abstract. The corresponding author is responsible for informing the other authors about the status of the abstract. To support the submitter in this mission, the listed co-authors(if any) will automatically be notified about the present abstract submission by the organisers.: Yes

4. As a corresponding author, I confirm that I have been granted the authority by all co-authors (if any) on this paper to act on their behalf and to convey the rights and make the representations contained in the copyright transfer agreements.: Yes

5. I certify that I am the original author or that I have the authorization to present the abstract on behalf of the author(s).: Yes

6. I confirm that I have read and accepted the privacy policy.: Yes

7. I herewith confirm that my abstract is submitted in the official congress language English. Therefore, I confirm that I understand that abstracts submitted in any other language than English will automatically be rejected.: Yes

8. In case of abstract acceptance, I herewith understand that the presenting author needs to be registered to

the Congress with on-site registration ticket to present live, or with a digital ticket as a minimum for the abstract to be included in the Congress digital library. Payment must be fully paid by 16 September 2022. Abstracts without a registered presenting author will automatically be rejected.: Yes

Previously presented: No