Artificial Intelligence (AI) and its role in the authorisation process for philanthropic funding: Experience of Indian Cancer Society Cancer Cure Fund (ICS-CCF)

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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

Presented by Dr. Nehal Khanna, TMH, Mumbai
Cancer Burden and Indian Cancer Society

New cases 1.3 million; 6 lac mortality in India

Oncological treatment; financial impact

Inception in 1951

2011– HDFC Mutual Fund scheme to create a sustainable fund

Patients benefitted – 13000 plus

Funds disbursed – 226 crore till March 2023
Empaneled hospitals

ICS CCF Team

Due Diligence Team DDT

Governing Advisory Council GAC

Disbursal

5 hrs of clinicians time per week
Prior authorization process requires the Due Diligence Team (DDT) and the Governing Advisory Council (GAC) of ICS-CCF to review every beneficiary application for compliance with standardized treatment guidelines, expected cure rates and applied costs.

To augment and scale up this process, ICS-CCF evaluated the use of Artificial Intelligence (AI) in reviewing the applications for recommendation.
Navya has processed more than 1 Lakh patients with cancer.
Methods

- NavyaAI platform matches the clinical data of beneficiary applicants (Input) with available clinical evidence and expert recommendations/guidelines, adapted to the ICS-CCF approval criteria (Output).

- The applications where the input and output match, are “recommended” and directly sent for GAC approval.

- Rest of the cases are referred to DDT, consisting of a minimum of 2 expert oncologists per meeting, who review them and forward to GAC accordingly.
Results

February 2021 to April 2023

- Beneficiary reviewed by Navya: 6333

<table>
<thead>
<tr>
<th>Application Passed via Navya AI</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended</td>
<td>78.76% (4988/6333)</td>
</tr>
<tr>
<td>Rejected</td>
<td>1.04% (66/6334)</td>
</tr>
<tr>
<td>Referred to DDT</td>
<td>20.21% (1280/6333)</td>
</tr>
</tbody>
</table>
Results

- DDT spends an average of **3 minutes** on each application referred by Navya.
- On average, Navya forwards **33** applications to GAC directly → saving a minimum of **198** minutes/week of the oncologist’s time.

<table>
<thead>
<tr>
<th>Concordance with Navya &amp; GAC</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concordance for Approvals</td>
<td>99.56% (4966/4988)</td>
</tr>
<tr>
<td>Concordance for Rejections</td>
<td>93.94% (62/66)</td>
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</tbody>
</table>
AI can review and assess the majority (~80%) of applications

• Only 1/5 of applications are referred to DDT for their input
• Now DDT reviews only 37 cases (9 cases in a week)
• Evaluation time of experts reduced from **2.5 hours → 30mins** per week

• Validated treatment protocol ★★★
• Adherence to National Cancer Grid guidelines ★★★
• Verifying the cost of treatment/ capping of cost ★★★
• Streamlining of processes ★★★
• Online meetings ★★★

21% cases still require a clinician’s expertise
Artificial Intelligence (AI)

**Philanthropy**
Optimal utilization through prior-auth time-saver

**Survivorship**
Collated Long term data generation

**Screening**
Selection of at-risk population

**Diagnosis**
Radiology, Pathology, Expertise

**Treatment**
Standardisation to Guidelines and Evidence

**Navigation**
Facilitation through validated protocols

**Rehab**
Integrated approach for enhanced productivity

- **Patients**: Save costs & time, reduce unnecessary movement, improve outcomes.
- **Payers**: Reduce unnecessary expenditure, faster claims processing.
- **Providers**: Save experts’ time, standardize care, improve patient outcomes.
AI and health care

• Improving quality and efficacy of authorization process
• Speedier processing of applications hence scaling up possible
• Standardized screening of applications

How will this help our country?

• Extrapolate this model on Government and NGOs in health care space
• Philanthropic disbursements
• Health insurance schemes

Thank you!!