PERPETUUM MOBILE

CWR4SC – BCA Fall 2019 Case Competition

CANCER TREATMENT IN INDIA: HEAVY BURDEN

Cancer is now the leading cause of catastrophic health expenditure and distress financing in India

Cancer Statistics in India (1)

- Estimated number of people living with the disease: around 2.25 million
- Every year, new cancer patients registered: Over 11,57,294 lakh
- Risk of developing cancer before the age of 75 years: 9.81% (male) / 9.42% (female)

Estimated Number of Patients	2,250,000
Treatment	Average Cost in USD
Cancer Evaluation Package (OPD)	1,200
Breast Cancer Treatment	4,500
Radical Prostatectomy Cancer Surgery	5,250
Advanced Brain Tumor Surgery	7,500
Bone Marrow Transplant	27,500
Cyberknife Radiotherapy	8,500
Average Cost Per Patient	9,075
Total Consumption	20,418,750,000
Average Saving Using Generic Drugs	0.30
Overall Saving	6,125,625,000

WHY NOT BIG PHARMA, AND WHY GOVERNMENT?

Mission Statement - help more people get affordable and proper treatment;

Working with a for profit company will put the bottom line above everything else

CWR4C is not selling drugs or trying to drive up profit

CWR4C is in the business of saving lives, not making money

CWR4C is working with no "real" IP in terms of drugs, so any pharma company can simply cut out the middleman

In their rush to profit, companies will sometimes cut corners and not ensure we are up to code

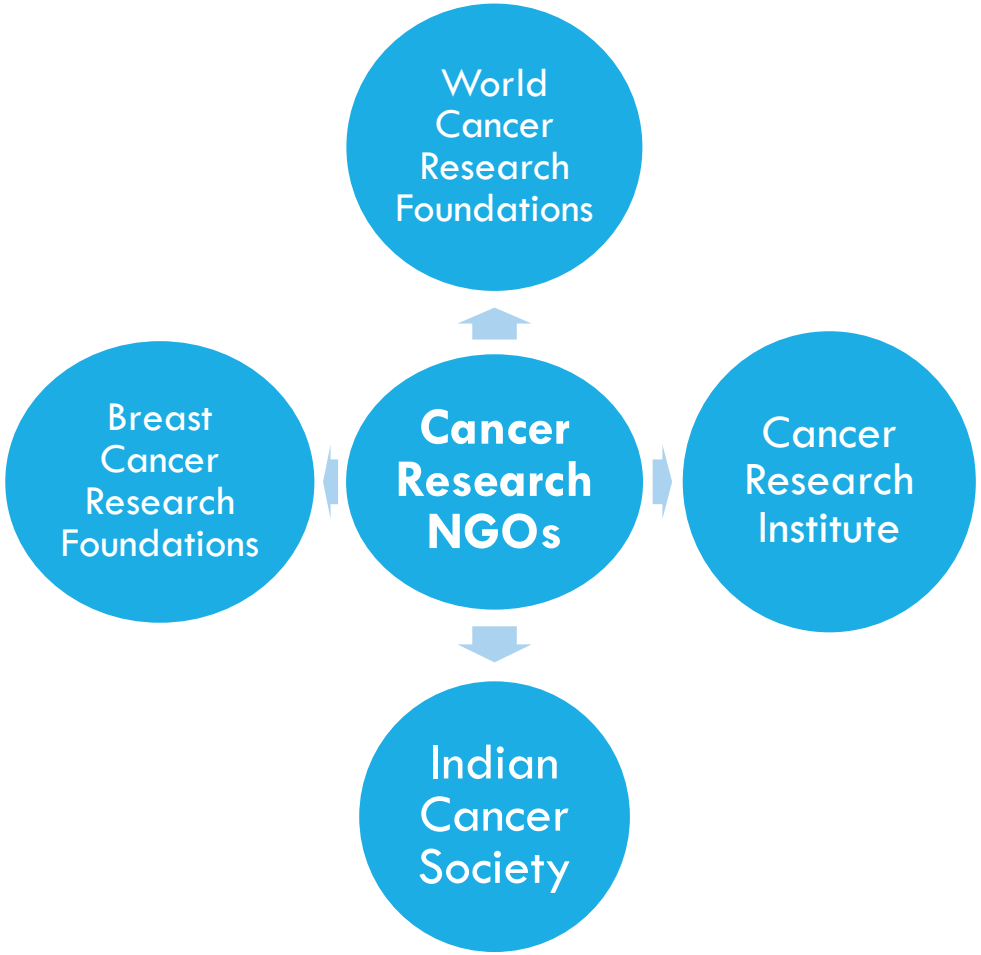
CWR4C needs to make sure the trials are up to code on everything - working with the regulators (i.e. the government) and not "against" them will help us in doing just that.

A lot of hospitals in india are government-owned. By working with them CWR4C will cut cost and have access to vast and diverse programs and options, as well as clinical staff and equipment at cost price (no additional charges)

RESEARCH

RESEARCH COST (ESTIMATED COST FOR THE ALGORITHM)

Database in India/U.S.:



Work With Cancer Financial Aid NGOs:

- CPAA India;
- Sahayta
- helpageindia.org (Financial Aid To Cancer Patients)

Why successful in India:

1. The Indian oncology community is increasingly using genomic testing for their patients;
2. India has an increasing ability to generate quality genomics data and identify patients based on their genomic profiles;
3. India has a cancer incidence of one million patients and a prevalent population of 2.5 million cancer patients.

The collaboration in cancer research will benefit mutually. It will enhance efficiency of the algorithm on CWR4C side while efficiency of algorithm is key to CWR4C's success.

COST

The reduction in upfront research costs means that, although generic medicines have the same therapeutic effect as their branded counterparts, they are typically sold at substantially lower costs. When multiple generic companies market a single approved product, **market competition typically results in prices about 85% less than the brand-name**. According to the IMS Health Institute, generic drugs saved the U.S. healthcare system $1.67 trillion from 2007 to 2016 (from FDA website, link in notes) ^1

India governmental expenditure on Healthcare is $30 billion, which is 1 % of Indian GDP in 2018. We are asking for .15%, which is $50 million ($5million for each trial) ^2 for the clinical trials once we get through trials with NGOs and CROs.

TRIALS

Is the treatment safe? → Does it work better than others? → Does the treatment work?

Trials in India:

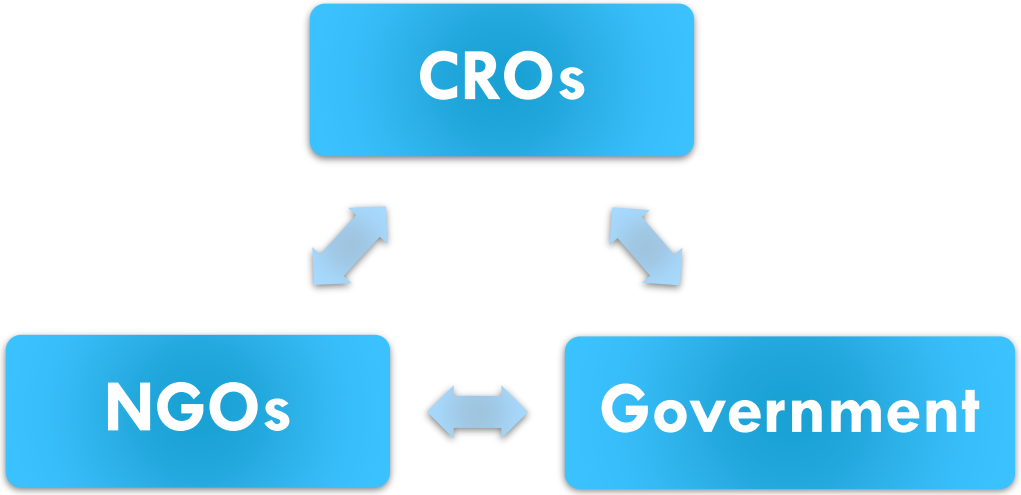
The operational cost of trials conducted in India are only 47% of that in U.S..

Phase 3 trials cost $19M in U.S. while in India, they are estimated to cost 9M;

Nearly two-third of the R&D costs goes towards drug development. Of this, clinical research accounts for 70% of time and resources spent during drug development (REF1)

With government support we expect the cost to decrease further.

COLLABORATORS



CROs - for In Vitro and (possibly) In Vivo. Repositioning

a drug from one purpose to another may come with unexpected and unwanted results

NGOs - for initial funding. The government isn't just going to hand us our asked funding of $50 million, we will need proof of concept.

Government & States: Hospitals - there are approximately 80 cancer hospitals. At least half of them are either Not-for-profit, governmental and/or state funded, or a combination of those. We will have a plethora of options to choose from, and the medical staff, equipment and testing will come at cost-price

CHALLENGES

- Restrictive three tier clinical trial application process.
- Clinical trials could only be carried out at accredited centers.
- With the repurposing of generic drugs approved by the GDCI, companies will be inclined to raise prices.
- Teaming up with the government, we don't control manufacturing.
- Distribution - Private pharmacies have a better market reach.
- Funding - Our project is heavily relied on funding, and we will need evidence and proof of concept to be obtained with limited financial support, different from private companies.

PRICING STRATEGY

People With Different Income Level Should Have Different Cancer Treatment Packages (People in extreme poor conditions should be exempted from paying for cancer treatment;) This might need support from different organizations, funds, impact investment etc.

As we commit to help cancer patients in India access more affordable treatment options, we suggest government and hospitals to cap price of generic drugs once they have been repurposed.

We don't control manufacturing, that's why we suggest government to cap the prices.

ETHICS

When looking at the pharmaceutical industry as a whole, the main objective is, as in all for-profit businesses, about the bottom line. This is not the case with NGOs,

but still they require funding.

A government - of the people, by the people, for the people - that is a body whose main interest isn't profit but the well being and lives of its citizens.

In pursuit of the bottom line, in the efforts to be the first and in the name of efficiency and low costs, regulations and safety precautions were disregarded and discarded, as was tragically epitomized in Bhopal almost 40 years ago.

In 2004, two India-based pharmaceutical companies, Shantha Biotech in Hyderabad and Biocon in Bangalore, came under scrutiny for conducting illegal clinical trials that led to eight deaths.

In another incident, Sun Pharmaceuticals convinced doctors to prescribe Letrozole, a breast cancer drug, to more than 400 women as a fertility treatment in a covert clinical trial – and used the results to promote the drug for the unapproved use.

HOW TO APPROACH GOVERNMENT?

Mission:

Help government save healthcare cost. Governmental spending in india on healthcare is $30 Billion. Of that a large portion goes into cancer treatment. If we can reduce the cost of cancer treatment, that money can be allocated to other avenues.

Through:

Hospitals in U.S. who have cooperation with Indian counterparts;

NGO/administration of pharma;

MOVING FORWARD

- Initially, we are using ‘Jan Aushadhi’ stores. If we successfully ensure quality of drugs with strict regulatory mandate, will eventually enhance prescription of generic drugs and non governmental pharmacies and drug stores can help with distribution
- Targeting an existing drug is cheap. However, it might also not be the most effective treatment. Once we found a drug that helps, we can have a new arm, jointly with the Indian government and funded by it, with profits on new patents and drug developed going into the Indian healthcare system and further perfecting the AI program, and running more clinical trials.
- The government spends a lot of money in cancer care. The amount of money saved by getting generic drugs to treat cancer can now be allocated to improving the distribution in rural areas, increasing investments in other fields such as better screening and detection tests, training more doctors and other healthcare staff, etc.

TITLE LOREM IPSUM DOLOR

LOREM IPSUM DOLOR SIT AMET, CONSECTETUER ADIPISCING ELIT.

NUNC VIVERRA IMPERDIET ENIM. FUSCE EST. VIVAMUS A TELLUS.

PELLENTESQUE HABITANT MORBI TRISTIQUE SENECTUS ET NETUS.