

Why Collaboration between Cancer-focused Organizations is an Imperative today

Researchers have shown that cancer cells evolve and adapt to their ecosystem and thrive due to the active cooperation of the host cells and tumor cells in their microenvironment. As researchers leverage this insight to escalate the fight against cancer, some of us are looking at creating an ecosystem, whose members collaborate and work together to prevent and treat cancer. Imagine bringing together a highly coordinated and collaborative set of cancer-focused researchers, patients and patient advocates, health care professionals, health care systems, regulatory agencies, government, industry, investors and service providers using an agile yet structured communication platform. None of them will have to reinvent the wheel, and everyone will have a better chance to succeed in a community which is not only interconnected but laser-focused on their common goal of curing cancer.

To work together and achieve success, the community will need to value communication, cooperation, mutual support, trust and respect for the value brought to the table by the various stakeholders. They will also need to adapt and tweak their processes dynamically, while providing constructive feedback to their colleagues..

Everyone in this ecosystem has something invaluable to offer. With some, it would be their expertise while others might contribute by sharing the challenges they faced along this journey. Together, they will stand a much better chance to fight this ‘Emperor of all Maladies’ and emerge victorious. Let’s take a look at what each of them brings to the table and how their contribution is invaluable in shaping the outcome.

Patients and Patient Advocacy Groups: Patients and patient advocacy groups inspire the community to work towards a cure. Their sufferings offer a perspective that allows researchers to keep the eye on the ball such that we limit collateral damage in the process of attacking the primary disease. In addition, as patients participate in clinical trials and contribute clinical data to further the research, , they also benefit from having timely access to breakthrough medicines.

Researchers: We keep hearing about how science and technology are converging and how diverse communities are coming together to create new knowledge and translate it into a practical application to benefit the society as a whole. Today, we have information technology joining hands with life sciences and physical sciences as well as mathematics and engineering. As everyone in the research sphere remains committed to this fight, and researchers continue to share unique insights, design innovative approaches, and develop new thought processes, the end goal seems attainable sooner than later. We see many examples of this already with the rising interest in drug resistance programs, immunotherapeutic approaches, gene therapy, and outsmarting or eradicating cancer stem cells.

Healthcare Professionals & Systems: Today’s cancer researchers are developing targeted precision therapies which require a very specific patient cohort to be recruited for the clinical trials, which continues to present the challenge of finding treatment naïve patients.. In a collaborative environment, which offers seamless communication, finding patients who present the specific gene set or mutation being targeted will no more present a challenge for the pharma and biopharma companies. Their reach can extend globally across organizations and disciplines and enable them to recruit the right patients for clinical trials.

The data generated from recruiting a global and diverse patient population, combined with artificial intelligence driven analytics, will offer better insights and promises to increase the pace of bringing novel therapies to patients. .

Investors: It is indisputable that oncology research is highly investment intensive, with long gestation periods and may not always result in a marketable IP or new chemical entity(ies). This calls for a highly specialized set of investors who marry their core finance competencies with those of researchers and clinicians to take a call on which approaches promise to transform cancer care. As more and more researchers prepare to throw all their might into the fight against cancer, the role of cancer-focused investors in the ecosystem will prove invaluable.

Service Providers: The core ecosystem has come to rely on many of the high-quality ancillary service providers offering global standards in on premise and cloud-based services which utilize artificial intelligence and machine learning where necessary. This category includes contract research, IP/patent services, diagnostic or research wet laboratories or ancillary services to offer assay development, reliable tumor sample assessments and molecular pathology services. Providers of laboratory animals and clinical samples is also a critical service.

Regulatory Agencies: Regulatory systems need to be progressive in their approach as they use the exponentially growing real-world data to accelerate the efforts in drug development and consider approvals in shortened timelines while enhancing their safety monitoring efforts. In recent times, we have also observed that the definition of a drug or a therapeutic agent is also evolving. The newer modalities of cell-based therapy, gene editing therapy, targeted and controlled release of drugs by engineered microbes are by no means conventional methods of treating cancer.

Government: The role played by federal budgets in supporting research that leads to novel therapies and technologies for prevention and early detection is invaluable in the fight against cancer. In addition, the government machinery(ies) need to prioritize addressing cancer because it is projected to claim most human lives in the world by 2030. The onus of establishing efficient mechanisms for researchers to establish companies that bring their discoveries and inventions to the market also falls on the government.

Industry: Biotech and pharmaceutical companies take huge risks by investing both money and expertise into fighting cancer. They could consider coming together to share the rewards of a successful collaboration instead of being focused on competition and extending timelines and falling behind in the race to the finish line. A case in point would be how the [NCI's MATCH trial](#) brought different industry partners together, as they work to find a cure for cancer based on genetic abnormalities identified in cancerous tumors.

With novel cancer therapeutics becoming a pressing need of the hour, it's time innovative uses of technology makes collaboration possible, integrates requirements of all stakeholders, reduces duplication of efforts, cuts the time-to-market and even brings down the costs. More importantly, it should be used to bring in operational synergies and improve overall efficiency, promising a better success rate both in finding a cure and in

commercializing it. Given that the combined global investment into this sector is estimated at \$2.7 billion to bring one drug to the market, with timeframes for a single drug candidate's development ranging anywhere from 5.8 to 15 years, the [benefits of this approach](#) are not just obvious but also highly desirable.

Lumiseek has succeeded in building just this. A core framework, which streamlines communication primarily across three broad categories of finding collaborators with complementary expertise, establishing and managing global collaborative projects, and managing your professional network by strategic grouping and segregating shared communication. Lumiseek registers qualified cancer-focused organizations of all types and has mechanisms to securely and privately communicate with them to develop a synergy with their near-term goals. The project management module lays out project roles, deliverables, tracking (budget and timelines), activities, and integrates other external or legacy systems used by the users or their parent organizations. The personal network management system, on one hand, allows users to create groups within their professional network (e.g. potential collaborators met at Onco-conferences, Key opinion leaders, reviewers etc.). On the other hand, it allows users to create temporary communication groups that may last only for the life cycle of a project. Because Lumiseek is developed by professionals with extensive experience across most functions of the cancer care value chain, all the requirements of various stakeholders in the field of oncology have been considered and incorporated into the platform. We invite you to try it and share your reviews/feedback with us.