NATIONAL ACADEMIES Sciences Engineering Medicine

SESSION 8:

Putting it all Together: Envisioning the AI Future for Cancer Research and Care

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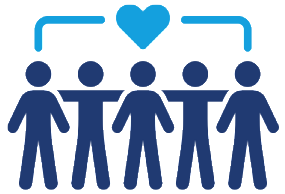
vibrent

There are 2 Distinct Stakeholders in Cancer Care and Research, Who Have Very Different Needs

Physicians
Navigators
Nurses

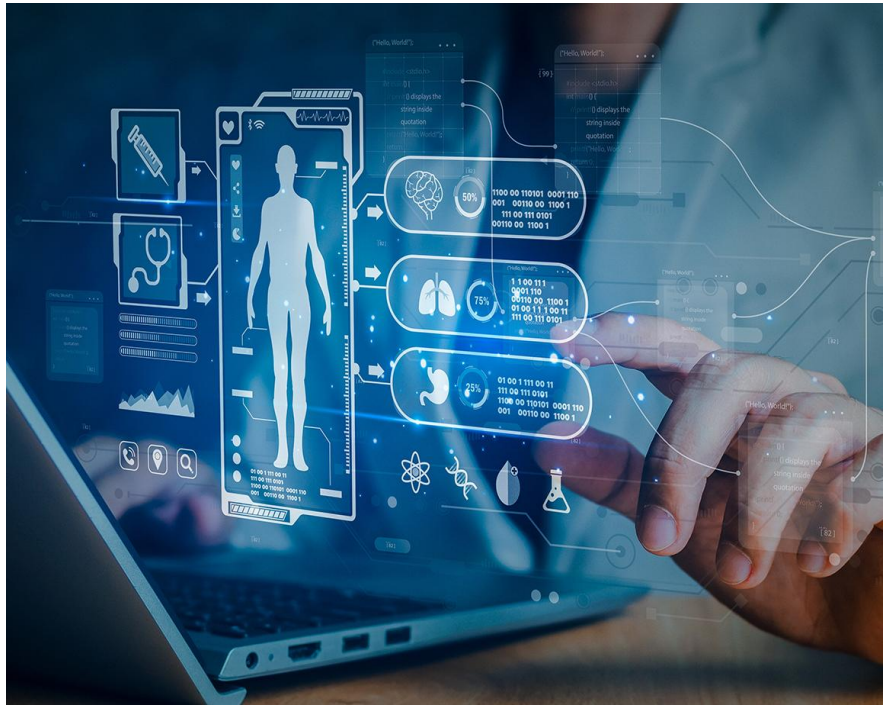


Patients
Families
Caregivers

High education and high literacy	Very broad range of education and literacy (5th-grade reading level to graduate)
Rational	Emotional and not in the best state of mind
High SES	Financial and logistical challenges
Access to and proficiently uses technology	Lack of Access, Information overload Needs day-to-day support and navigation
	Fragmented care systems Burnout

There is a Huge Imbalance in Technology, Digital Health and AI Investments

- Predominant investments in AI are in the fields of genomics, radiology, pathology, clinical innovations in Cancer Research and Care solutions for physicians and healthcare institutions.
- AI innovations and technology infrastructure have not focused on the **lived-experience needs of patients and caregivers**.
- There are 15 dimensions of inclusivity to solve for.



It is Time That we Also Focus on AI Innovations to Benefit Patients and Caregivers in Cancer Care and Research.

- eConsent
- Create Language and Cultural relevance through conversational AI and content AI
- AI to enhance patient experience as a patient assistant
- AI for participant-facing research navigation
- Provide patients access to their own data through explainable AI
- Increase patient Engagement (automated notifications, reminders in local language, culturally sensitive)

NCI/NIH and the broader USG have invested a lot to achieve this aim, and these investments can be leveraged for Cancer AI.

To Build Trust, Patients' Concerns Must be Adequately Addressed by Any Agentic AI Solution. Explainability is the Key.

- "Is a machine making decisions about my life?"
- Data privacy and secondary use of genomic data
- Bias affecting underserved populations
- Loss of human connection
- Unclear accountability if something goes wrong – Need governance

Five Patient-Centered Action Areas

1. Ensure **accountability, governance** and adaptive oversight
2. **Co-design** with patients and caregivers

   Ensure CULTURAL RELEVANCE and LANGUAGE
3. Make AI transparent and **explainable**
4. Ensure **replication and reproducibility** of DATA
5. **Reduce burden** across the care and research journey

If AI reduces fear, confusion, and inequity for patients and caregivers, we will have succeeded. If it adds opacity, burden, or bias, we will have failed – no matter how sophisticated the technology.

thank you