

The world has never spent more on cancer. Too little of it reaches the patient chair

7/100 US cancer patients estimated to respond to a genome-targeted therapy, after two decades of genomics and hundreds of billions in research.

Haslam et al., Annals of Oncology, 2021 · Figure for 2020

20.6M new cases worldwide in 2024.

Nearly 10 million deaths.

35M projected worldwide in 2050.

Up roughly 70% in one generation.

\$252B cancer medicines spend in 2024.

Headed to \$441B by 2029.

3.4% oncology Phase I to approval.

Versus 13.8% in all other disease areas.

The burden is rising everywhere, at once.

In 2026, 2,114,850 Americans will be diagnosed with cancer and 626,140 will die. Breast cancer diagnoses are climbing 1% a year, and 1.4% in women under 50. Oncologist density fell from 15.9 to 14.9 per 100,000 adults over 55 in a decade, and by 2037 non-metropolitan America is projected to meet just 29% of its oncologist demand. Community oncology is absorbing more complexity with fewer hands.

Money is not the constraint.

The US spends more than \$200 billion a year delivering cancer care. Yet evidence takes an average of 17 years to reach routine practice, and by 2020 just 13.6% of US cancer patients were even eligible for a genome-targeted therapy. A vast scientific enterprise, and a very thin channel into the clinic.

New instruments. Old infrastructure.

AI, multimodal data, immunotherapy, and targeted agents can expand capacity and raise quality at the same time. But they can't be bolted onto a record system built to document care rather than compute it. They need a Cancer AI and Data Infrastructure layer on top of the EHR a cancer center already runs. CMS's Enhancing Oncology Model now pays for outcomes through 2030, and paying for outcomes requires evidence at the level of the individual patient. Today, that evidence does not exist.



What we built at GeneSilico.

gSage™ is an AI-first clinical oncology platform.

It reads the whole record (notes, pathology, radiology, genomics, labs) and assembles a Casebook: the patient's current biological state, with insights and actions attached. A Digital Tumor Twin simulates the resistance pathways a tumor will encounter and returns a ranked therapy proposal with a traceable causal argument, unsigned, for the tumor board to adjudicate. Every oncologist correction and patient response returns to the Biology Kernel, which recalibrates. Simulation, observation, correction, patient by patient. To our knowledge, no other clinical oncology platform runs that loop at the level of the individual patient.

We are validating this with large cancer systems, **HCG cancer Center** and **Omega Hospitals** in India, and building toward regulatory authorization of the Digital Twin as clinical decision support. We were selected to participate in **Mayo Clinic Platform Accelerate**.

The opportunity of this decade is not to spend more. It is to build the infrastructure that lets what we already know reach every patient, in every community, while they still have time.

Mohammed Farooq

Founder & Chairman | GeneSilico

gSage is clinical decision support. It does not diagnose, prescribe, or auto-sign any decision. Every proposal is reviewed and signed by a treating oncologist, and patient data stays inside the institution's environment. gSage is not FDA cleared. Figures cited describe the field, not any GeneSilico product. Sources: WHO/GLOBOCAN 2024 · ACS Cancer Statistics 2026 · IQVIA 2025 · Wong, Siah & Lo 2019 · Morris, Wooding & Grant 2011 · Haslam et al. 2021 · ASCO Workforce 2025 · CMS. Named third parties are not endorsements.