Quantum CareMap: Mapping Cancer Access, Envisioning the Future

Access to quality cancer care remains a significant challenge in Indian cities, especially for people living in the outskirts or rural areas. While Chennai is home to several leading cancer hospitals, the geographic distribution of these facilities hasn’t been closely examined through a geospatial lens. Our project aims to close this gap using GIS tools to visualize where these centers are located and how accessible they are to the public. By mapping existing infrastructure, we lay the foundation for smarter healthcare planning — today and in the future.

# Methodology

To carry out this project, we used QGIS (v3.32), an open-source GIS software, along with data from the ISRO Bhuvan portal. Our focus was to create a simple and accurate location map of major cancer hospitals in Chennai. We identified eight hospitals, gathered their geographic coordinates from Google Maps, and plotted them in QGIS.  
  
We also imported Chennai's city boundary shapefile from Bhuvan to provide spatial context. Using the QuickOSM plugin, we added major roads to help visualize connectivity. The map was styled with a clean layout, including labels, legends, a north arrow, and a scale bar. While we didn’t include buffer zones or advanced analytics in this version, the map still provides meaningful insights into spatial access to cancer care.

# Application and Use

This map is valuable for planners, researchers, and NGOs working in public health. It shows which parts of Chennai are well-served by cancer centers and which areas may need better infrastructure. Patients and caregivers can also use it to identify the nearest hospital quickly.  
  
In the future, we envision combining this location-based data with powerful tools like quantum computing. This could allow researchers to analyze complex health and location data together — improving early detection, treatment planning, and overall cancer care. Our work is a first step in building a more data-driven, accessible, and intelligent healthcare system.