DATA_SOURCES

CancerInsight SG - Data Sources & Website Structure

Overview

CancerInsight SG is a static educational website about cancer survival rates, treatment options, costs, and support resources in Singapore. Built with vanilla HTML, CSS, and JavaScript with no backend infrastructure.

Website Structure

```
claude_cancer/
├── index.html          # Homepage — Cancer type overview & statistics
├── assessment.html     # Health profile assessment form
├── survival.html       # Survival rates data and charts
├── treatment.html      # Treatment options by cancer type
├── costs.html          # Treatment costs & financing information
├── resources.html      # Support resources & contact information
├── script.js           # Unified JavaScript for all pages
└── styles.css          # Unified stylesheet
```

Technology Stack

- **Frontend:** Vanilla HTML5, CSS3, JavaScript (no frameworks)
- **Charting:** Chart.js (loaded from CDN)
- **Fonts:** Google Fonts (Inter, Playfair Display)
- **Design:** Responsive, mobile-first with breakpoints at 1024px, 768px, 480px

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Data Sources

1. Singapore Cancer Registry

Source: Singapore Cancer Registry Annual Report 2022
URL: https://www.nrdo.gov.sg/publications/cancer
Used for:

- Total case counts (87,716 cases from 2018-2022)
- Daily new case rate (48 cases/day)
- Mortality rate (72 deaths per 100,000)
- Cancer prevalence rankings
- 5-year survival rates by cancer type

Location in codebase: `index.html` (data attributes on cancer cards)

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2. SEER (Surveillance, Epidemiology, and End Results Program)

Source: National Cancer Institute SEER Program
URLs:

- https://seer.cancer.gov/statfacts/
- https://seer.cancer.gov/statistics-network/explorer/

Used for:

- Survival rate curves by stage (1, 3, 5, 10-year survival)
- Stage-specific survival percentages
- Comparison data for US cancer statistics

Location in codebase: `script.js` (survivalData object, lines 262-395)

Cancer types with survival data:

- Breast Cancer (Stages I-IV)
- Colorectal Cancer (Stages I-IV)
- Lung Cancer (Stages I-IV)
- Prostate Cancer (Stages I-IV)

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3. GLOBOCAN 2022

Source: Global Cancer Observatory (International Agency for Research on Cancer)
URL: https://gco.iarc.who.int/

Used for:

- Global cancer incidence data
- Comparative international statistics
- Cancer burden estimates

Location in codebase: Referenced in survival.html and treatment.html

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4. NCCN Clinical Practice Guidelines 2024

Source: National Comprehensive Cancer Network
URL: https://www.nccn.org/

Used for:

- Treatment protocols by cancer type and stage
- First-line treatment recommendations
- Second-line treatment options
- Drug reference information
- Side effect management guidelines

Location in codebase: `treatment.html` (99.4 KB of treatment protocols)

Cancer types covered:

- Prostate, Breast, Colorectal, Lung, Liver, Stomach
- Uterine, Ovarian, Lymphoma, Thyroid, Kidney
- Bladder, Pancreatic, Nasopharyngeal, Cervical

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5. Research Publications

Hazard Ratios for Comorbidity Adjustments

Sources:

- Nature Scientific Reports 2024 (diabetes and cancer mortality)

- American Cancer Society Cancer Statistics 2024
- Various peer-reviewed studies on comorbidity-cancer interactions

Used for survival adjustment factors:

Condition	Hazard Ratio	Source
Diabetes	1.41	Nature Scientific Reports 2024
Hypertension	1.15	Epidemiological studies
Heart Disease	1.30	Cardiovascular-oncology research
Kidney Disease	1.50	Nephrology studies
Liver Disease	1.45	Hepatology research
COPD	1.35	Pulmonology studies
Obesity	1.20	Metabolic studies
Smoking (current)	2.15	Tobacco research
Smoking (former)	1.45	Tobacco research
Low Physical Activity	1.59	Exercise oncology studies

Location in codebase: `script.js` (hazardRatios object, lines 594-608)

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6. Singapore Healthcare Financing Data

Sources:

- Ministry of Health Singapore
- MediShield Life scheme documentation
- Medisave-approved Integrated Shield Plan guidelines
- Medical Assistance Fund (MAF) guidelines

Used for:

MediShield Life Coverage Rates

Hospital Setting	Coverage Rate
Public Subsidized	50%
Public Private	30%
Private Hospital	15%

MAF Subsidy Brackets (by Per Capita Household Income)

PCHI Range	Subsidy Rate
$0 - $1,200	75%
$1,201 - $1,800	60%
$1,801 - $2,600	50%
$2,601 - $3,500	40%
$3,501 - $4,500	30%
$4,501 - $5,500	20%
$5,501 - $6,500	10%
Above $6,500	0%

Location in codebase: `script.js` (lines 199-247)

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7. Treatment Cost Estimates

Sources:

- Singapore General Hospital published rates
- National Cancer Centre Singapore fee schedules
- Private hospital published rates
- Healthcare industry reports

Cost categories covered:

- Surgery (by procedure type)
- Chemotherapy (per cycle)
- Radiation therapy
- Targeted therapy
- Immunotherapy
- Supportive care
- Hospital stays

Location in codebase: `script.js` (treatmentCosts object) and `costs.html`

External Services (CDN)

Google Fonts

```
https://fonts.googleapis.com/css2?
family=Inter:wght@300;400;500;600;700&family=Playfair+Display:wght@500;600;7
00&display=swap
```

- Provides: Inter (sans-serif) and Playfair Display (serif) fonts

Chart.js

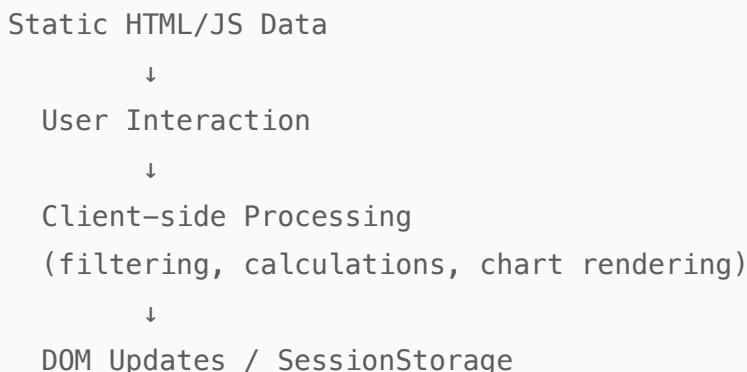```
https://cdn.jsdelivr.net/npm/chart.js
```

- Provides: JavaScript charting library for survival rate visualizations

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# Client-Side Data Storage

## SessionStorage

- **Key:** `healthProfile`
- **Contents:** User's health assessment responses (JSON)
- **Scope:** Browser session only (cleared on close)
- **Purpose:** Persist user input across page navigation

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# Data Flow

```
Static HTML/JS Data
        ↓
  User Interaction
        ↓
  Client-side Processing
  (filtering, calculations, chart rendering)
        ↓
  DOM Updates / SessionStorage
```

```
          ↓
  Display to User
```

Key processing functions:

1. `calculateCosts()` - Computes out-of-pocket costs based on treatment, hospital, stage, and income
2. `adjustSurvivalRate()` - Modifies survival estimates based on user comorbidities
3. `initSurvivalCharts()` - Renders Chart.js survival curves
4. `filterAndSort()` - Filters cancer cards by gender and sorts by selected criteria

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Data Update Requirements

Data Type	Update Frequency	Source to Monitor
Cancer statistics	Annually	Singapore Cancer Registry
Survival rates	Annually	SEER, Singapore Cancer Registry
Treatment protocols	As guidelines change	NCCN
Healthcare costs	Annually	MOH, hospitals
Financing schemes	As policies change	MOH, CPF Board

Important Disclaimers

- All information is for educational purposes only
- Not a substitute for professional medical advice
- Cost estimates are approximate and may vary
- Treatment protocols should be discussed with oncologists
- Survival rates are population-based and individual outcomes vary

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Last updated: January 2026