**Methodology: Mapping Public/Non-Profit Integrative Oncology Services in Australia**

**1. Objective**

Curate a national, geocoded database of **public and non-profit** wellness services for people with cancer and survivors (and carers), and analyse spatial coverage and access.

**2. Scope & Definitions**

* **Included provider types:** public hospitals/health services, local councils, community health services, universities/teaching clinics, registered charities/NGOs, Cancer Council entities.
* **Audience:** people with cancer, survivors, and carers (explicitly stated).
* **Modalities (at least one required):** Holistic medical consultation by SCP, Acupuncture, Oncology massage therapy, Reflexology, Exercise physiology , Physiotherapy, Lymphoedema therapy, 1 on 1 yoga therapy, 1 on 1 meditation sessions, Telehealth programmes for rural and remote patients, Mindfulness meditation, Yoga, Qi Gong, Exercise classes , Survivorship exercise, education and nutrition programme, Rehabilitation and prehabilitation programmes
* **Geography:** Australia (pilot: Greater Melbourne).
* **Exclusions:** private for-profit clinics as primary providers; services not cancer-specific; inactive or undated programs.

**3. Data Sources**

* Official websites of public hospitals and health networks (state and local).
* Local council/community health websites and program timetables (including PDFs).
* Cancer Councils (national/state), registered charities/NGOs serving cancer populations.
* Government portals (.gov.au) listing community programs.
* (Validation only) Direct email/phone confirmation where web evidence is ambiguous.

**4. Search Strategy (Standard Operating Procedure)**

**4.1 Keyword sets (combine as needed):**

* **Core concepts:** Holistic medical consultation by SCP, Acupuncture, Oncology massage therapy, Reflexology, Exercise physiology , Physiotherapy, Lymphoedema therapy, 1 on 1 yoga therapy, 1 on 1 meditation sessions, Telehealth programmes for rural and remote patients, Mindfulness meditation, Yoga, Qi Gong, Exercise classes , Survivorship exercise, education and nutrition programme, Rehabilitation and prehabilitation programmes
* **Modalities:**  Psycho-oncology, Art programme (Arterie), Music therapy, Spiritual care, Social work, Dietitian
* **Audience qualifiers:** “for people with cancer”, “cancer survivors”, “living with cancer”, “carers”, “post-treatment”.

**4.2 Query templates (examples):**

* Hospitals/health networks  
  site:alfredhealth.org.au ("wellness centre" OR mindfulness OR yoga OR "oncology rehabilitation") (cancer OR oncology)
* Councils/community health  
  site:\*.vic.gov.au ("cancer exercise" OR "cancer support group" OR "oncology rehab") ("free" OR "low cost")
* Cancer Councils/charities  
  site:cancervic.org.au (program OR classes OR "support group") (yoga OR meditation OR exercise)
* Timetables/brochures (currency check)  
  (filetype:pdf) (cancer) (wellness OR survivorship OR "oncology rehab") (timetable OR schedule OR brochure)

**4.3 Noise control:** add -private -clinic -cosmetic -spa -laser -pricing as needed; limit to **Past year** in search tools to avoid stale entries.

**5. Screening & Eligibility**

Two-stage screening per record:

1. **Title/abstract (page) screen:** must mention cancer/survivor audience and at least one eligible modality; provider appears public/NFP.
2. **Full-page review:** confirm currency (timetable/update within 12 months), eligibility (e.g., “current patients of X hospital”), cost (free/low-cost), referral requirement, and physical location.

Borderline cases (e.g., partnered private delivery of a **free, publicly funded** program) are included with a provider\_type=partnered\_private flag and explanatory notes.

**6. Data Model (Core Schema)**

**Entity:** wellness\_service (one row per location/program hub)

* Identity: service\_id, name, org, provider\_type(hospital/council/community\_health/charity/university/partnered\_private).
* Location: address, suburb, state, postcode, lat, lon, geom (Point, EPSG:4326).
* Access: eligibility (free text), referral\_required (Y/N/unknown), cost\_note.
* Program: services (pipe-separated controlled tags), hours\_or\_timetable, delivery (in-person/online/hybrid), languages (optional).
* Admin: contact\_phone, contact\_email, source\_url, last\_verified\_yyyy\_mm\_dd, notes.

**Controlled tags:**  
exercise|physiotherapy|exercise\_physiology|yoga|meditation|mindfulness|tai\_chi|pilates|oncology\_massage|lymphoedema|art\_therapy|music\_therapy|dietetics|nutrition|psycho\_oncology|peer\_support|support\_group|spiritual\_care|education\_workshops

**7. Data Collection Workflow**

1. **State sweep:** run queries for one state at a time; bookmark candidate pages.
2. **Triage:** apply screening criteria; discard non-qualifiers.
3. **Capture:** record fields into a structured sheet or directly into Postgres (data entry form).
4. **Geocode:** QGIS (MMQGIS/Nominatim) → review candidates with multiple matches; fix addresses.
5. **Ingest:** import geocoded points into **PostGIS**; enforce types and constraints.
6. **Stamp:** set last\_verified\_yyyy\_mm\_dd to the verification date and add canonical source\_url.

**8. Database & Tools**

* **DB:** PostgreSQL + PostGIS (CREATE EXTENSION postgis;)
* **DDL (essential):**

CREATE TABLE wellness\_services (

service\_id SERIAL PRIMARY KEY,

name TEXT NOT NULL,

org TEXT,

provider\_type TEXT CHECK (provider\_type IN

('hospital','council','community\_health','charity','university','partnered\_private')),

address TEXT, suburb TEXT, state TEXT, postcode TEXT,

eligibility TEXT, referral\_required TEXT, cost\_note TEXT,

services TEXT, hours\_or\_timetable TEXT, delivery TEXT,

contact\_phone TEXT, contact\_email TEXT, website TEXT, source\_url TEXT,

last\_verified\_yyyy\_mm\_dd DATE,

geom geometry(Point, 4326)

);

CREATE INDEX ON wellness\_services USING GIST (geom);

* **GIS:** QGIS for QA, cartography, and exports; optional OpenRouteService plugin for travel-time isochrones.
* **Versioning:** snapshot exports (GeoPackage/GeoJSON) per state with date-stamped filenames.

**9. Spatial Analysis Plan**

* **Coverage buffers:** simple Euclidean buffers (e.g., 1 km walking proxy) and **network isochrones** (10/20/30-min public transport or walking) around each service.
* **Service density:** counts per LGA/SA2 (choropleth), normalized by population (or estimated survivor counts if available).
* **Modalities availability:** facet maps by service tags (e.g., where oncology massage or lymphoedema services exist).
* **Gap analysis:** identify LGAs/SA2s outside all service isochrones; flag “underserved” areas.
* **Overlap/duplication:** cluster analysis where many services co-locate, to inform coordination.

**10. Quality Assurance & Validation**

* **Currency checks:** require a dated timetable/update < 12 months old or email confirmation; otherwise mark needs\_verify.
* **Dual review:** second reviewer validates **provider type, audience, and location** for 20% random sample.
* **Geocoding QA:** verify at least one **street-level** imagery or authoritative map for outliers; fix mismatches.
* **Deduplication:** fuzzy match on name+address and ST\_Equals(geom) within 25 m.
* **Change log:** append-only audit table (service\_id, changed\_fields, timestamp, reviewer).

**11. Outputs**

* **Static maps:** state and national thematic maps (coverage, density, modality availability).
* **Interactive web map:** Leaflet/Mapbox GL JS app with: search, filters (provider type, modality, eligibility), and popups (hours, contact, link). Data served from PostGIS (API) or periodic GeoJSON export.
* **Open dataset (where appropriate):** CSV/GeoJSON with a clear data dictionary and update date.

**12. Ethics & Data Governance**

* Public information only; no personal/health data collected.
* Attribute **source URLs** for provenance; respect robots.txt and site usage terms.
* If programs serve specific cultural/language groups, reflect respectfully and accurately.

**13. Reproducibility**

* Maintain a **methods repository** (queries, SOP, DDL, QGIS style files).
* Store scripts/notebooks for: scraping (if used), geocoding joins, PostGIS transforms, and map exports.
* Release a **methods appendix** (this section) with any deviations logged.

**14. Anticipated Limitations**

* Website currency varies; some programs lack explicit dates.
* Eligibility constraints differ and may change (e.g., “current patients only”).
* Network travel-time models depend on GTFS and API limits.
* Regional services may be under-advertised online; require direct validation.