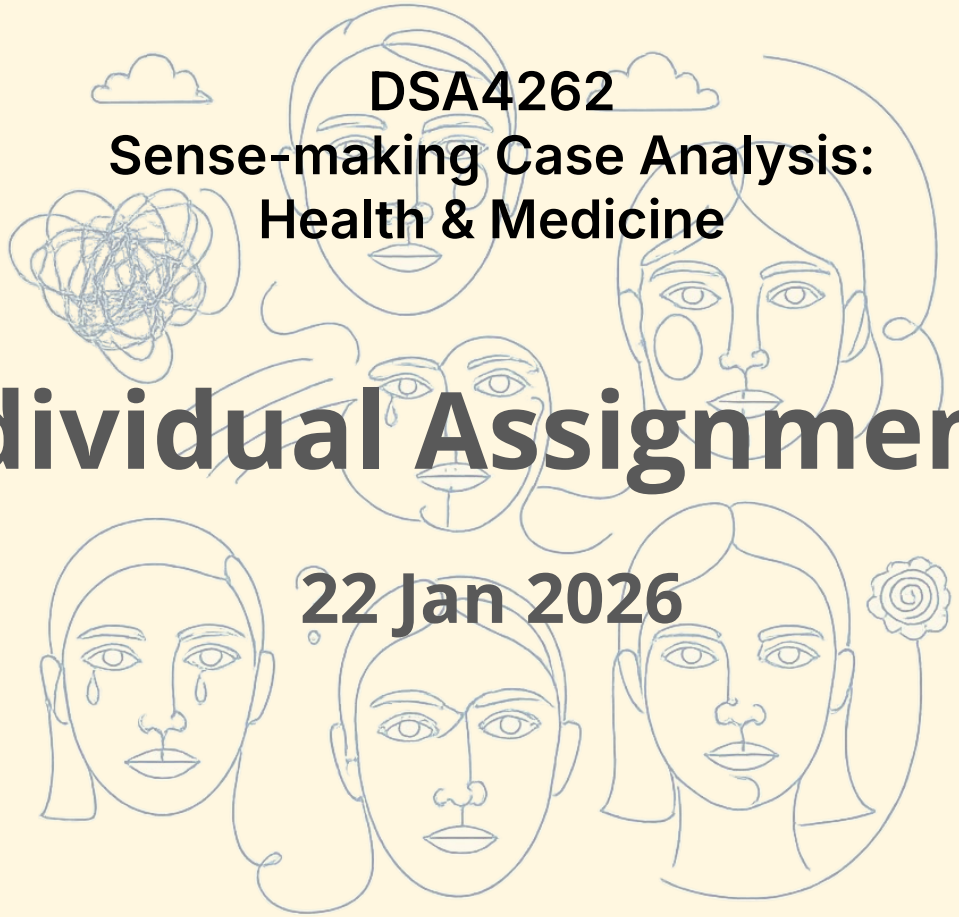
DSA4262
Sense-making Case Analysis:
Health & Medicine

Individual Assignment 1

22 Jan 2026



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Recap

By now, you should:

- Understand why data visualisation is important
- How data can drive us towards evidence-based interventions
- How easy it is to be deceived by data and charts

Individual Assignment 1

Make **3** plots from at least **2** data sources, with one descriptive paragraph each.

Start with a topic you are interested in.

Your charts should communicate the key idea immediately.

Obviously, include your sources. Data need not be from Singapore.

Note: the open-ended nature of the assignment is a feature, not a bug. There is no clear answer, and there is no ground truth on what's interesting. It's your job to convince why something is interesting.

There is no loneliness epidemic – so why do we keep talking as if there is?

Rates of loneliness have remained stable for decades. But alarmist framing fuels panic and distracts us from the steady, compassionate work of building connection.

The Male Loneliness Epidemic: Why More Men in Singapore Are Feeling Isolated Today

December 29, 2025 / Annabelle Psychology

GROUND UP

'A silent epidemic': Why loneliness is on the rise in a hyperconnected world

Social media, smartphones and the internet have bridged connections between people, but why are there more lonely souls today?

https://www.straitstimes.com/opinion/there-is-no-loneliness-epidemic-so-why-do-we-keep-talking-as-if-there-is

Building your narrative

The Macro plot

Population level, showing broad trend, disparity, distribution, unmet needs.

E.g., prevalence of loneliness across time or different demographics.

Insight: is loneliness actually on the rise? Who exactly is lonely?

The Micro plot

Zooming in to specific sub-group, moving beyond averages.

E.g., comparing what loneliness looks like for students vs. elderly.

Insight: what time of the day do young vs. elderly feel lonely?

The Actionable plot

A clear suggestion where a resource should be deployed, a bridge to interventions.

E.g., a map of where loneliness rates might be highest (build new community centre), social media usage linked to loneliness (design referral within social media apps).

Insight: what intervention would be most impactful?

Each plot should be described with one paragraph

Motivation: why is this topic interesting or important?

Design choice: why did you choose this specific chart type?

Clinical insight: what does this tell a clinician or policy maker?

Integrity: what limitation does this dataset have?

Assessment: VIPER Framework

1. Visual Integrity & Design (20%)

- **Clarity:** Is the chart "scannable"? (Clean axes, readable font sizes, minimal "chartjunk").
- **Encodings:** Did they use the right preattentive attributes? (e.g., color used for categories, size for volume).
- **Accessibility:** Is it readable? Does it pass the "Grayscale Test"?

2. Insight & Depth (25%)

- **Beyond the Surface:** Does Plot 2 actually reveal something Plot 1 didn't?
- **Complexity:** Did they successfully navigate messy healthcare data (handling missing values, outliers, or skewed distributions)?
- **Nuance:** Did they identify the difference between *correlation* and *causation* in their description?

3. Purpose & Actionability (25%)

- **The "So What?":** Does Plot 3 point to a clear intervention?
- **Strategic Thinking:** Is the target for the intervention specific (e.g., "Seniors in HDB 3-room flats") or too vague (e.g., "all lonely people")?
- **Precision:** Does the chart include a "trigger" or "threshold" for action?

4. Ethics & Context (15%)

- **Honesty:** Did they avoid deceptive scaling (e.g., truncated Y-axes)?
- **Empathy:** Is the visualization respectful of the subject matter? (e.g., avoiding stigmatizing labels for mental health conditions).
- **Limitations:** Did they acknowledge the "biases" in the dataset?

5. Rationale & Communication (15%)

- **Argumentation:** Does the paragraph explain *why* they chose that specific visualization for that specific problem?
- **Vocabulary:** Do they use correct data viz and clinical terminology?

To give you a rough rubric

Score	Level	Description
85-100%	**Visionary**	Charts are publication-ready. Plot 3 provides a "lightbulb moment" for a policymaker or product builder. The rationale shows deep critical thinking.
70-84%	**Practitioner**	Technically sound and clean. Plot 2 shows a clear deep-dive. Insight is logical but perhaps lacks a unique "clinical angle."
50-69%	**Beginner**	Basic bar/line charts. Plot 2 and 3 are too similar to Plot 1. Rationale describes *what* the chart is rather than *why* it matters.
<50%	**Incomplete**	Errors in data representation, misleading axes, or no intervention-focused logic in Plot 3.

Submission format

Submit as a **PDF** on **Canvas**. Instructions will be shared on Canvas.

You may include a link to your Github repo if appropriate.

You can choose the tool(s) you are most comfortable with, e.g. R, Python, Jupyter Notebooks, Adobe, Figma, Datawrapper, etc.

Feel free to stay and work on this now.