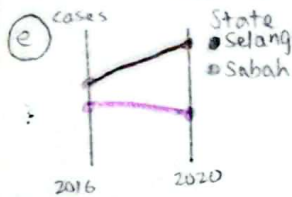
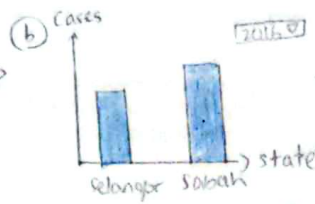
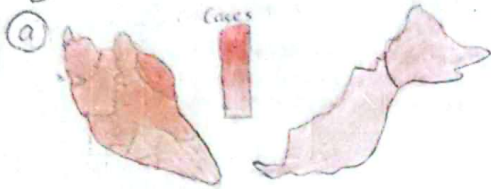
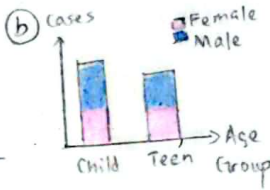
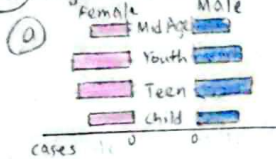


Ideas

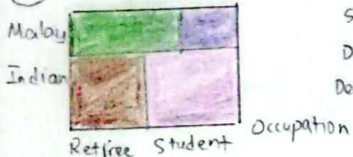
① State vs Cases



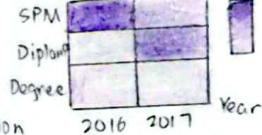
② Age Vs Cases



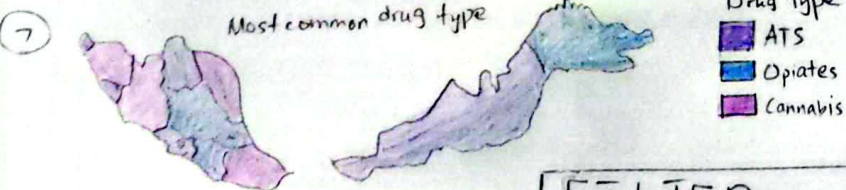
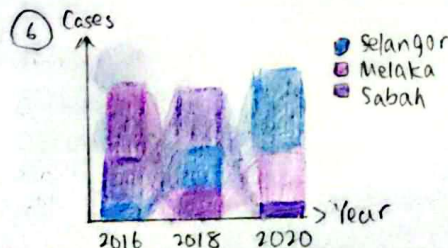
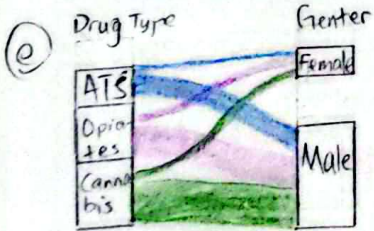
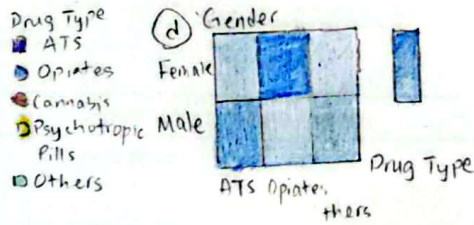
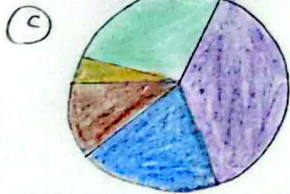
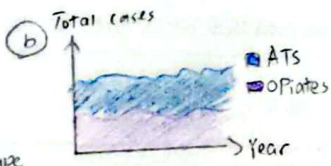
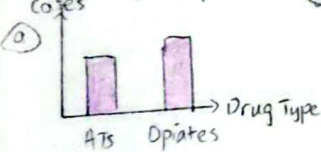
③ Occupation Vs Race



④ Education level



⑤ Drug Type



FILTER

Remove 1(e)
Remove 2(b) similar to 2(a)
Remove 5(c), 5(d)

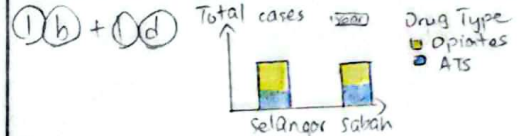
CATEGORIZE

State: ①(a) + ⑥ + 1(b) + 1(d)

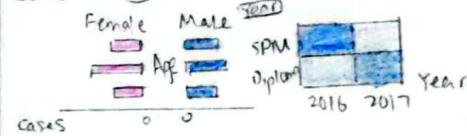
Demographic: ①(c) + 2(a) + ④ + ③

Drug Type: ⑦ + 5(a) + 5(e) + 5(b)

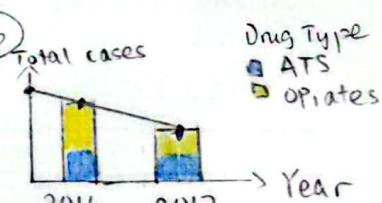
COMBINE & REFINER



②(a) + ④



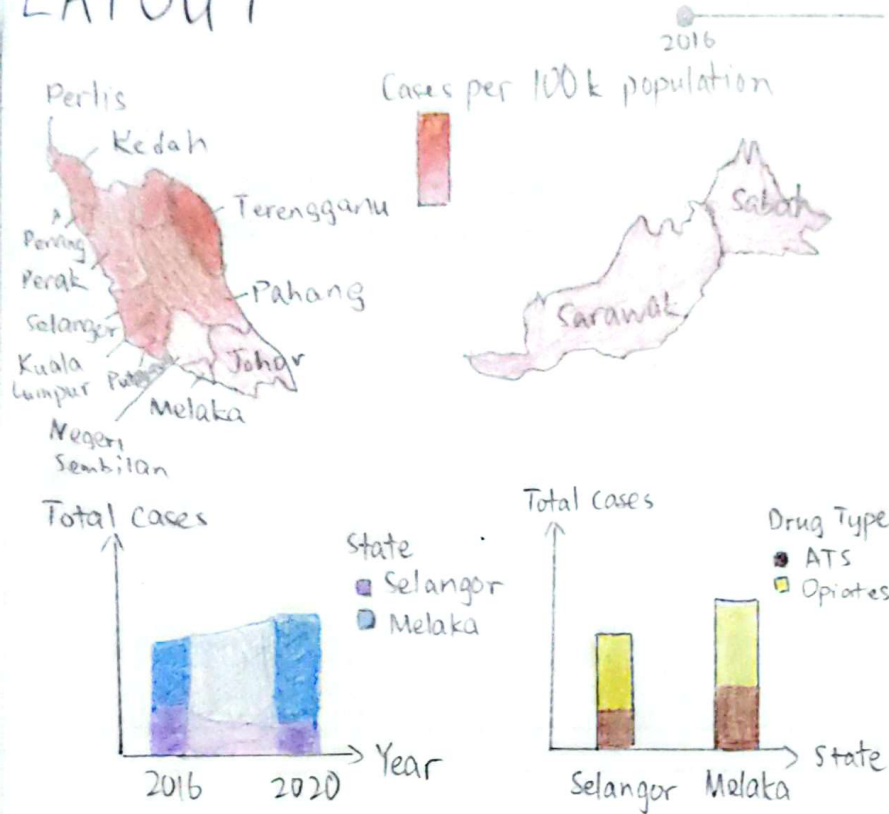
⑤(a) + ⑤(b)



QUESTION

- Does the map + stacked bar + ribbon help identify which states have higher cases and trends?
- Are there patterns in drug prevalence geographically?
- Are there states or demographic with disproportionately high cases?
- Do group 2 reveal the most affected age groups, genders, occupations, educational levels

LAYOUT



Title: Drug Addiction Trends in Malaysia

Author: Liew Yun Ru

Date: 21/9/2025 Sheet: 2

Task: Compare states' drug cases per 100k population, track trends over years, identify states with high drug incidences.

OPERATION

- hover state, show tooltip with case details
- click state, filter stacked bar chart and ribbon plot
- slide the year slider, update all visualizations
- toggle drug type visibility using checkbox

FOCUS

Main: State Comparison Focus

- focus on state level



- comparing both quantity and type of drug cases

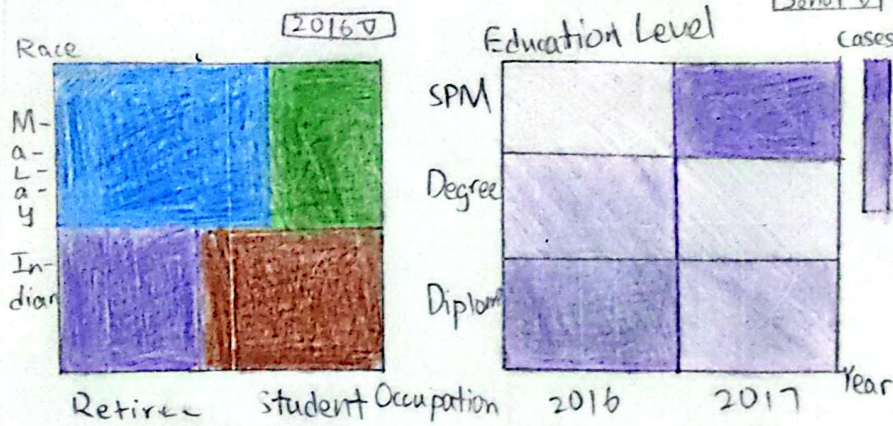
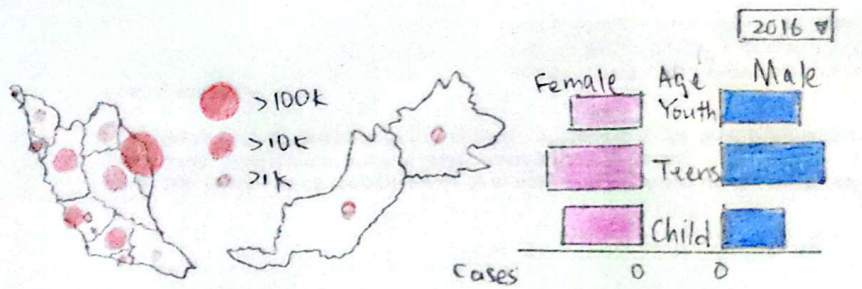
- identify high incidence states, compare drug types, explore temporal trends.

- understand composition of cases by drug type in each state

DISCUSSIONS

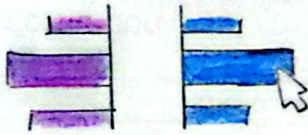
- + clear state level comparison
- + linked charts provide multidimensional understanding.
- + Ribbon plot shows temporal trends.
- can become cluttered with many states
- Ribbon plot hard to read for more than 5 states.
- stacked bar chart may obscure individual contributions if many drug types exist
- can be enhanced with thresholds for high incidence states

LAYOUT

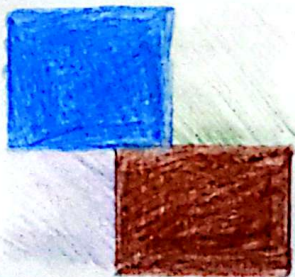


FOCUS

- identify age groups & genders most affected



Gender:
Age:



Main: demographic patterns

- education level

- age

- gender

- occupation

- race

- focus on who is affected by drug cases

- monitor education level trends over years

- examine occupation x race distribution to detect clusters.

Title: Demographics of Drug in Malaysia

Author: Liew Yun Ru

Date: 21/9/2025 | Sheet: 3

Task: Analyze which demographic groups are most affected, uncover patterns across gender, age, and education level.

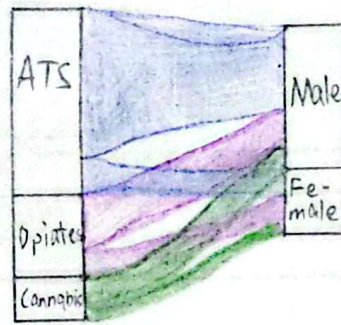
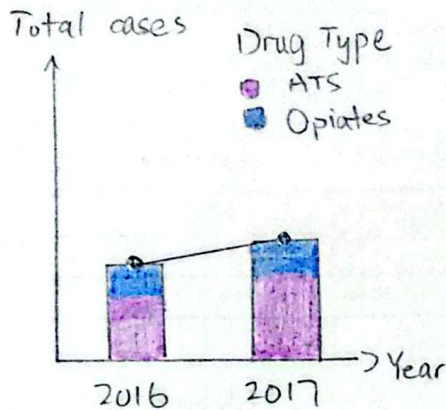
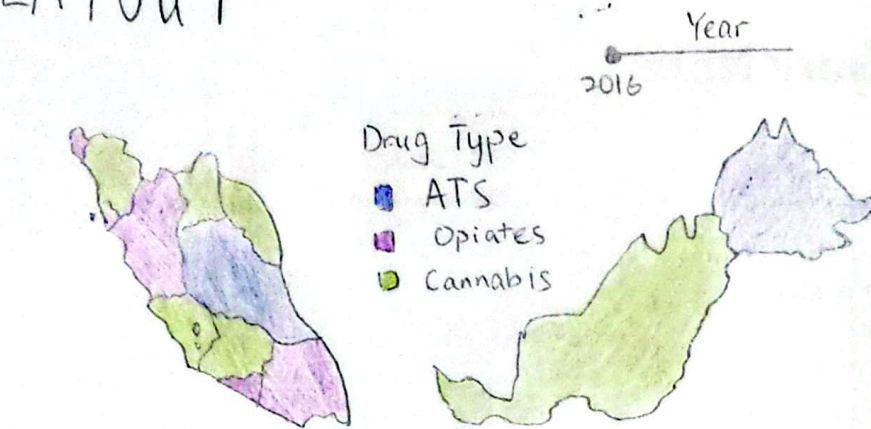
OPERATION

- hover the visualization, show tooltips
- click demographic, highlight across the charts
- change the filter (state, year), update the visualizations

DISCUSSIONS

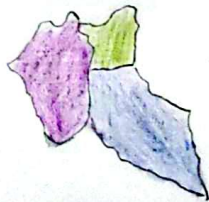
- + detailed view of affected demographics
- + enable discovery of social patterns and risk factors
- + good for targeted interventions
- If too many demographic variables will cause overwhelming
- linking multiple panels may confuse user initially
- ▶ can integrated with predictive modeling to highlight emerging risk

LAYOUT



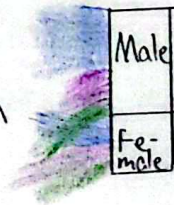
FOCUS

- track drug types across gender & state and see temporal trends



- identify which drug types dominate in specific states

- understand gender distribution of cases per drug type



- visualize flow between drug types and gender



- observe trends over years

Title: Drug Type in Malaysia

Author: Liew Yun Ru

Date: 21/9/2025 | Sheet: 4

Task: Understand flow of drug cases across gender & types, track trends over time.

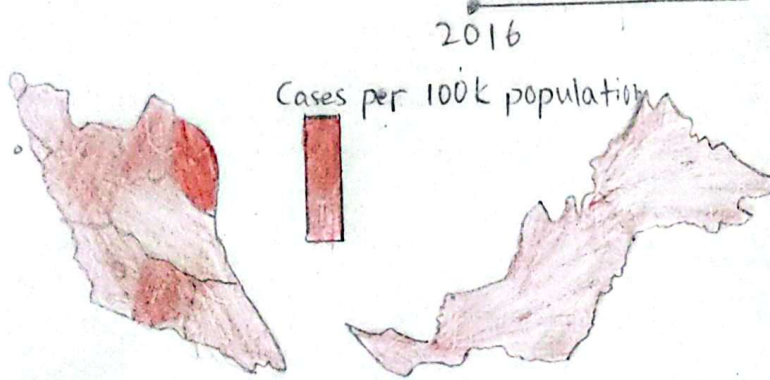
OPERATION

- hover the visualization, show the tooltips
- click drug types, highlight flows in Sankey diagram (highlight corresponding bars)
- slide the year slider, update bar chart & Sankey diagram

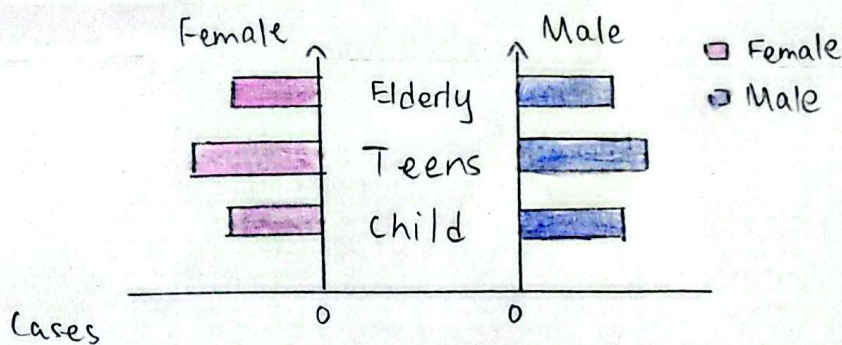
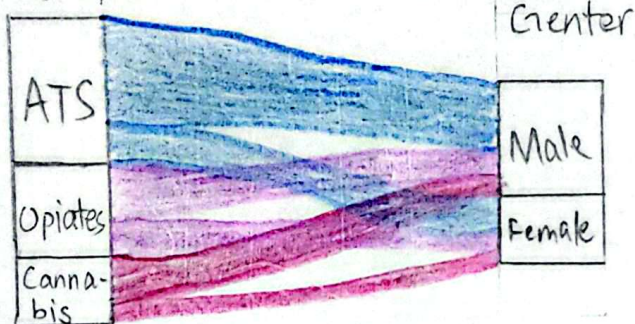
DISCUSSIONS

- + highlight relationships between drug type & gender
- + Sankey diagram provides intuitive flow understanding
- + good for public health messaging
- Sankey diagram may be visually complex with many drug types
- Categorical choropleth may obscure small categories
- ▷ can extended with interactive alerts for high risk states / drug types

LAYOUT

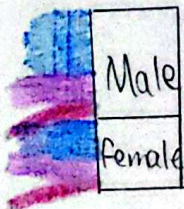


Drug Type



FOCUS

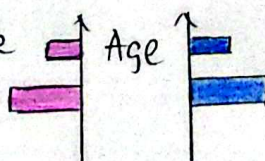
- identify states with high normalized case rates



- understand which drug types dominate genders

- explore gender distribution of the affected population

- compare age group proportions across genders



- unites spatial awareness (where), gender flow (who), and demographic distribution



Title: Drug Case in Malaysia

Author: Liew Yun Ru

Date: 21/9/2025 | sheet: 5

Task: Provide an interactive environment that let users explore where, who are most affected by drug cases, and how these patterns evolve over time,

OPERATION

- hover on visualization, show tooltips
- click the state of the choropleth map, filter the sankey diagram
- drag the year slider, animates map colors & sankey widths to reflect temporal changes

DETAIL

- get data from AADK, data.gov.my
- process the data
 - ▷ calculate to get cases per 100k population
- Vega-Lite for all charts
- Topojson for map geometry
- GitHub Pages hosting
- Estimate:
 - ▷ data clean + transformations: 3 days
 - ▷ visualizations: 2 week
 - ▷ Integration: 1 week