

Patient access to opioid substitution pharmacy and medical service providers in South Australia: geospatial mapping

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Aims:

This cross-sectional study geospatially maps patient access to Opioid Substitution Treatment (OST) pharmacy and medical providers in South Australia (SA).

Method:

- Geospatial mapping of OST patient locations, their dosing community pharmacy and prescriber was undertaken using Arc GIS. De-identified data from a total of 2935 public and private OST patients (1092 public cases and 1843 private cases) were included in the study.
- Overall, 2935 cases in this study represent 91% of all SA OST patients. The remaining 9% of cases in the state are prison patients and were excluded.
- Geospatial visualisation of the collected datasets was achieved with use of the mapping software program, ArcGIS.
- The study was approved by the Human Research Ethics Committee of the University of Adelaide and the SA Health Human Research Ethics Committee. The University of Adelaide signed a Data Access Agreement and a Deed of Novation with SA Health.

Key Findings:

- At the time of data collection, 217 community pharmacies provided OST services in the state and there were 52 GPs prescribing OST.

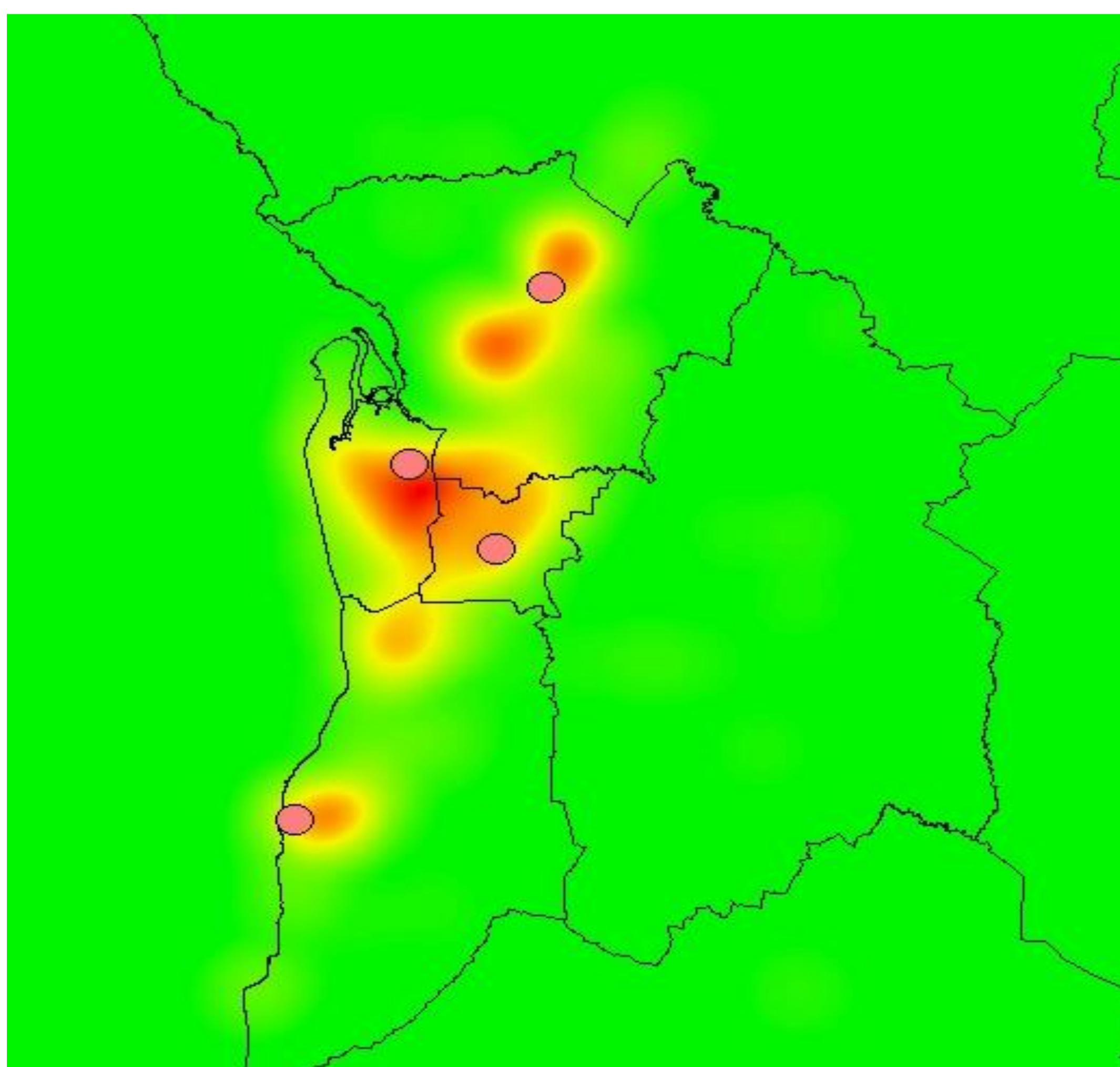


Figure 1: Public clinic locations and the density of patients in metropolitan Adelaide

Table 1: Patient travel distance calculations from residence to their doctor and pharmacy

DISTANCES TRAVELLED			
Public cases travel to DASSA clinic (km)			
Median distance travelled from centroid of postcode residence to clinic (straight line distance)		Median distance travelled from case full address to clinic (road distance)	
Non-metropolitan case	79.2	Non-metropolitan case	74.5
Metropolitan case	8.7	Metropolitan case	9.8
Public cases travel to pharmacy (km)			
Median distance travelled from centroid of postcode residence to pharmacy (straight line)		Median distance travelled from case full address to pharmacy (road distance)	
Non-metropolitan case	44.4	Non-metropolitan case	14.7
Metropolitan case	6.5	Metropolitan case	4.06
Private cases travel to GP travel (km)			
Median distance travelled from centroid of postcode residence to GP (straight line)			
Non-metropolitan case	35.7		
Metropolitan case	15.2		
Private cases travel to pharmacy (km)			
Median distance travelled from centroid of postcode residence to pharmacy (straight line)			
Non-metropolitan case	28.5		
Metropolitan case	12.4		

- The density of patient cases in this study appears to increase around the location of prescribers. The majority of public (77%) and private (67%) cases live within 5 km to the closest public clinic or doctor.
- Patients in rural areas have significantly fewer OST prescriber options, and they travel longer distances to reach these services compared with metropolitan patients.
 - Private rural cases travel, on average, twice the distance to their OST prescriber compared with metropolitan patients.
 - Public rural cases travel approximately seven to nine-fold the median distance compared to public metropolitan cases.
- Public and private patients are geographically located closer to their community pharmacy than their doctor in both metropolitan and rural.
 - The overwhelming majority of public cases live within 5 km (98%) to 10 km (99%) from their OST pharmacy.
 - The majority of private cases live within 5 km (84%) to 10 km (90%) from their OST pharmacy.

Discussions and Conclusions:

- Geographical information system analysis and travel calculations have provided a first-time understanding of public and private patient access to pharmacy and prescriber OST services in SA.
- The geospatial modelling methods used in this study presents an application whereby information about patient travel patterns to reach OST providers can be used as a tool for treatment service planning.
- Information about patient distances travelled to reach services from the analysis can be used to plan for future service improvements.

Reference to full publication: Le P (2019), Patient access to opioid substitution treatment pharmacy and medical service providers in South Australia; geospatial mapping. Australian Journal of Primary Health, 25(2), 125-130.