Haemodialysis Capacity Survey

Eric Au

ANZSN-ANZDATA Clinical Epidemiology Fellow

Aim

- To assess haemodialysis capacity in Australia and Aotearoa New Zealand

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Methods

- Online survey – 13 questions
  - Number of dialysis chairs
  - Usage of chairs
  - Nocturnal dialysis
  - Holiday dialysis/away-from-home dialysis

- Sent initially to dialysis unit nursing managers
- Follow-up phone calls & emails from ANZDATA

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AOTEAROA NEW ZEALAND HAEMODIALYSIS INFRASTRUCTURE SURVEY

A report on Aotearoa New Zealand's haemodialysis service capacity

Crawford S, Jennings T, Funnell M, Salmon A. Aotearoa New Zealand Haemodialysis Infrastructure Survey. Aotearoa New Zealand: Kidney Health New Zealand; 2023. Available from: https://www.kidney.health.nz/resources/files/picker/khnz-dialysis-capacity-report-2023-04-30-final-compressed.pdf.

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Results

- All 331 Haemodialysis units in Australia and New Zealand
- 40% of units offered acute haemodialysis to hospital inpatients

Number of hospitals versus satellite units

Type	Acute	Non-acute
Hospital	118	5
Satellite	13	191

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Results

Number of units in each jurisdiction by facility type

Jurisdiction	Acute	Non-acute	Hospital	Satellite
Darwin	1	2	1	2
Rest of NT	1	5	1	5
Sydney	15	18	15	18
Rest of NSW	28	32	25	35
Melbourne	19	24	17	26
Rest of VIC	11	27	12	26
Brisbane	9	8	8	9
Rest of QLD	20	28	19	29
Adelaide	3	9	3	9
Rest of SA	1	10	0	11
Perth	4	7	3	9
Rest of WA	4	8	0	11
Hobart	1	0	1	0
Rest of TAS	1	1	1	1
Canberra	1	4	1	4
Rest of ACT	0	0	0	0

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Patient-Chair Ratio

Ratio of:

- Long-term haemodialysis patients reported to ANZDATA (2022 End of year survey), excluding home haemodialysis patients
- Haemodialysis chairs reported by individual dialysis units

Patient-Chair Ratio

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
AM							
PM							

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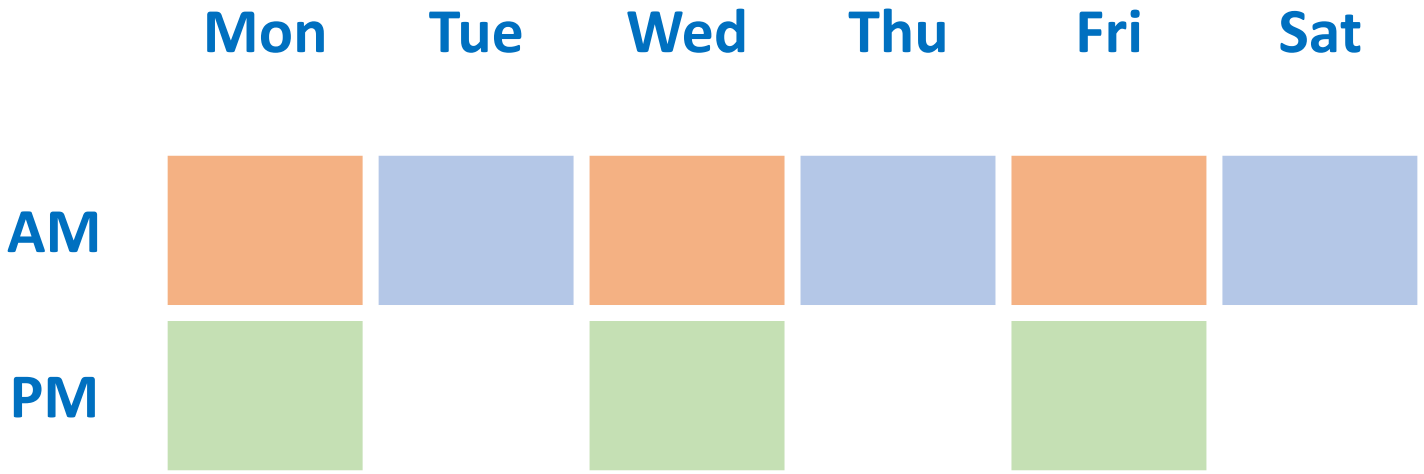
Patient-Chair Ratio



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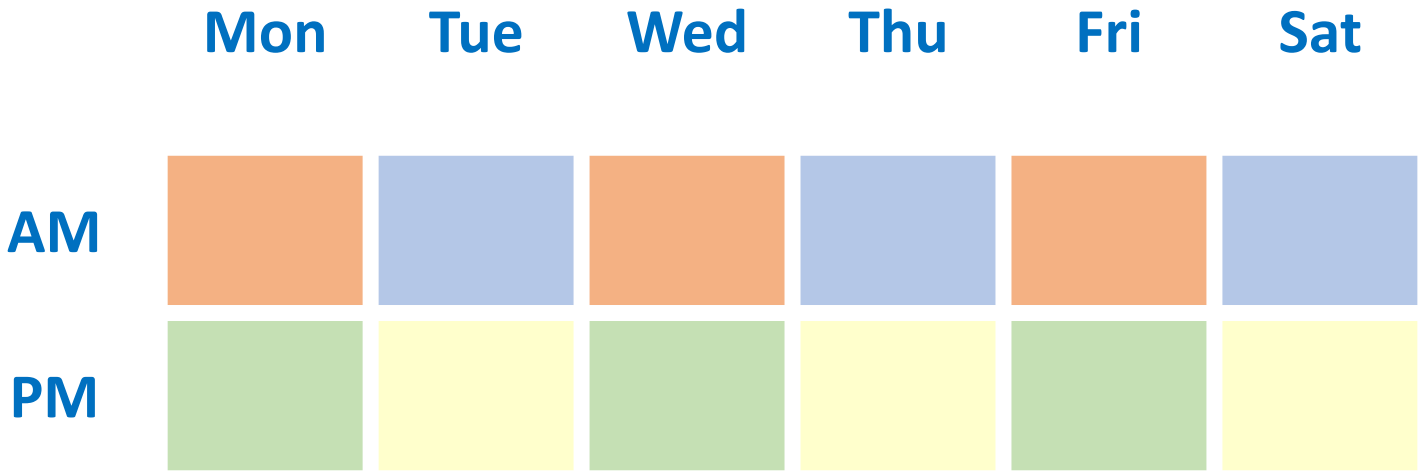

“Standard” patient-chair ratio of 4

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Limitations to Patient-Chair Ratio

- Does ***not*** include short-term haemodialysis patients (<3 months), acute inpatients
- Units that offer 3rd dialysis shift, nocturnal haemodialysis
- Networked units & distribution of patients across a network

- Shows current workload but not demand – waiting to start HD, dialysing out of area

Results

Ratio of patients per dialysis chair by country

Country	Total number of patients*	Total number of chairs	Ratio	Range
Australia	11702	3514	3.33	0.25-6.75
New Zealand	1998	508	3.93	0.75-6.21
Overall	**13700**	**4022**	**3.41**	**0.25-6.75**

Results

Ratio of patients per dialysis chair in capital cities by state

Jurisdiction	Total number of patients*	Total number of chairs	Ratio	Range
Darwin	254	59	4.31	3.78-5.26
Sydney	1900	526	3.61	1.50-6.00
Melbourne	2066	567	3.64	1.42-6.75
Brisbane	977	262	3.73	0.41-5.25
Adelaide	658	168	3.92	1.00-5.16
Perth	958	219	4.37	3.55-5.71
Hobart	77	38	2.03	-
Canberra	174	70	2.49	0.40-3.33

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Results

Ratio of patients per dialysis chair outside of capital cities

Jurisdiction	Total number of patients*	Total number of chairs	Ratio	Range
NT	482	103	4.68	2.67-6.46
NSW	1369	541	2.53	0.25-4.90
VIC	639	237	2.70	0.25-4.75
QLD	1478	527	2.80	0.50-5.00
SA	178	53	3.36	1.00-5.00
WA	397	100	3.97	2.17-5.40
TAS	103	42	2.45	2.40-2.48
Overall	**4646**	**1603**	**2.90**	**0.25-6.46**

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Haemodialysis Capacity Maps

https://bit.ly/dialysiscapacity

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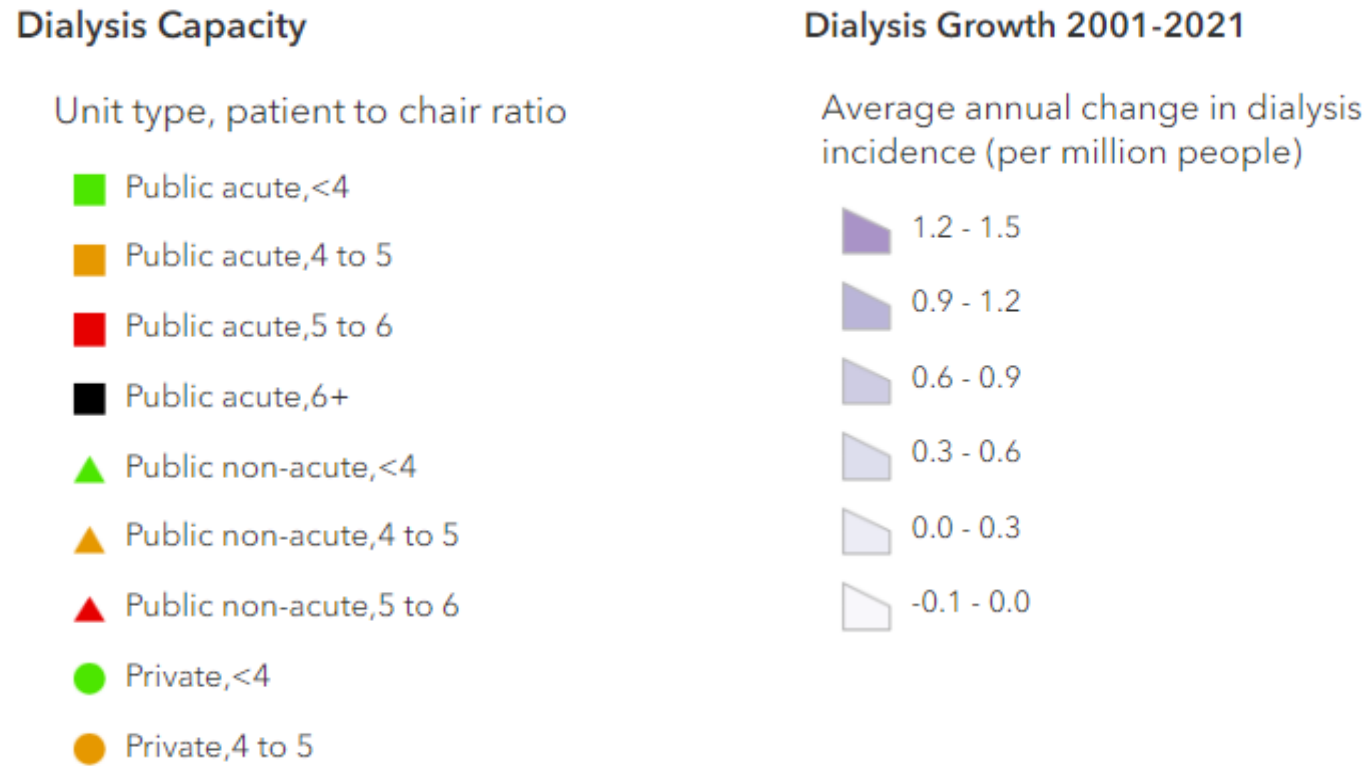
Haemodialysis Capacity Maps



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https://bit.ly/dialysiscapacity

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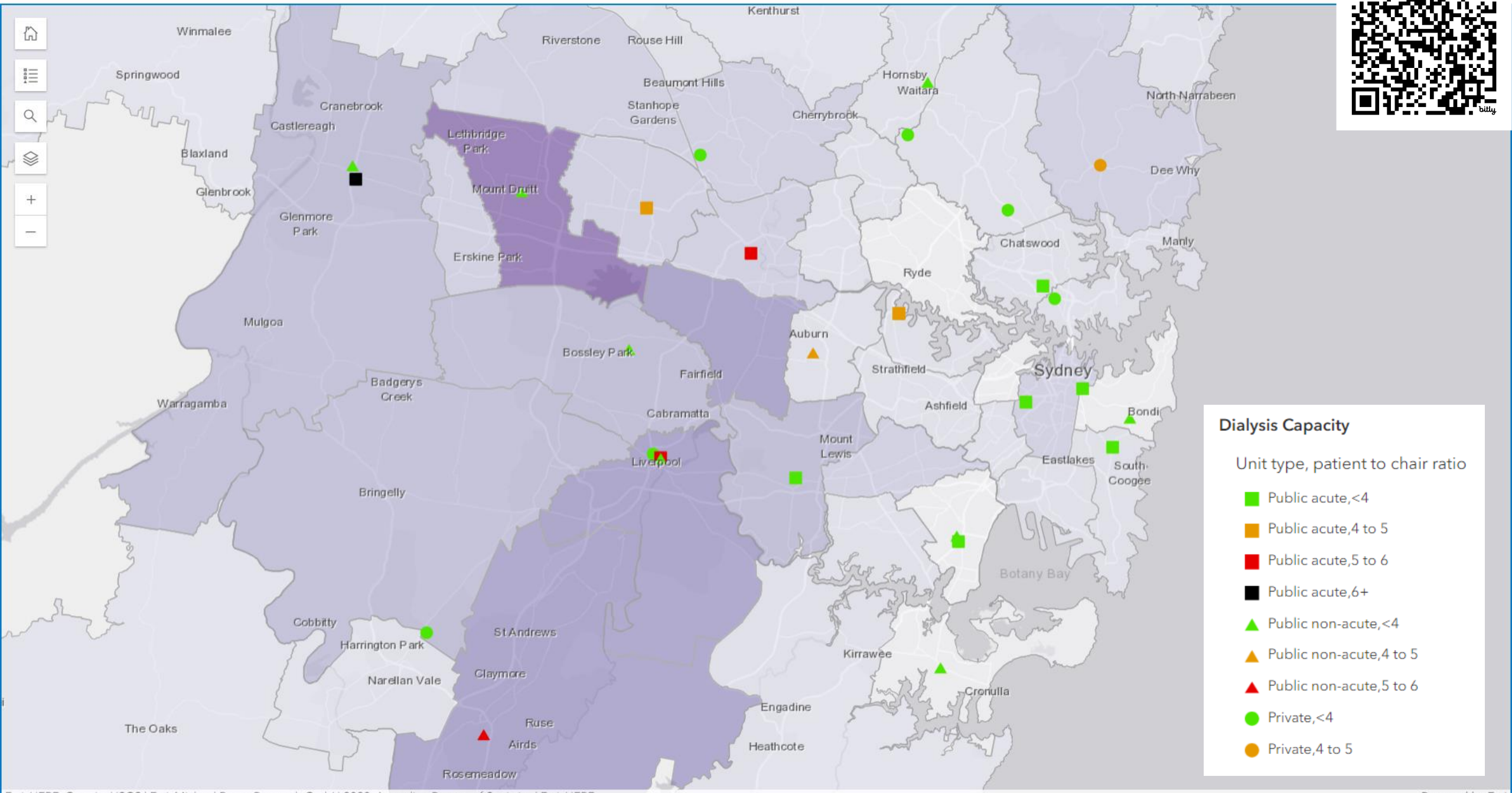

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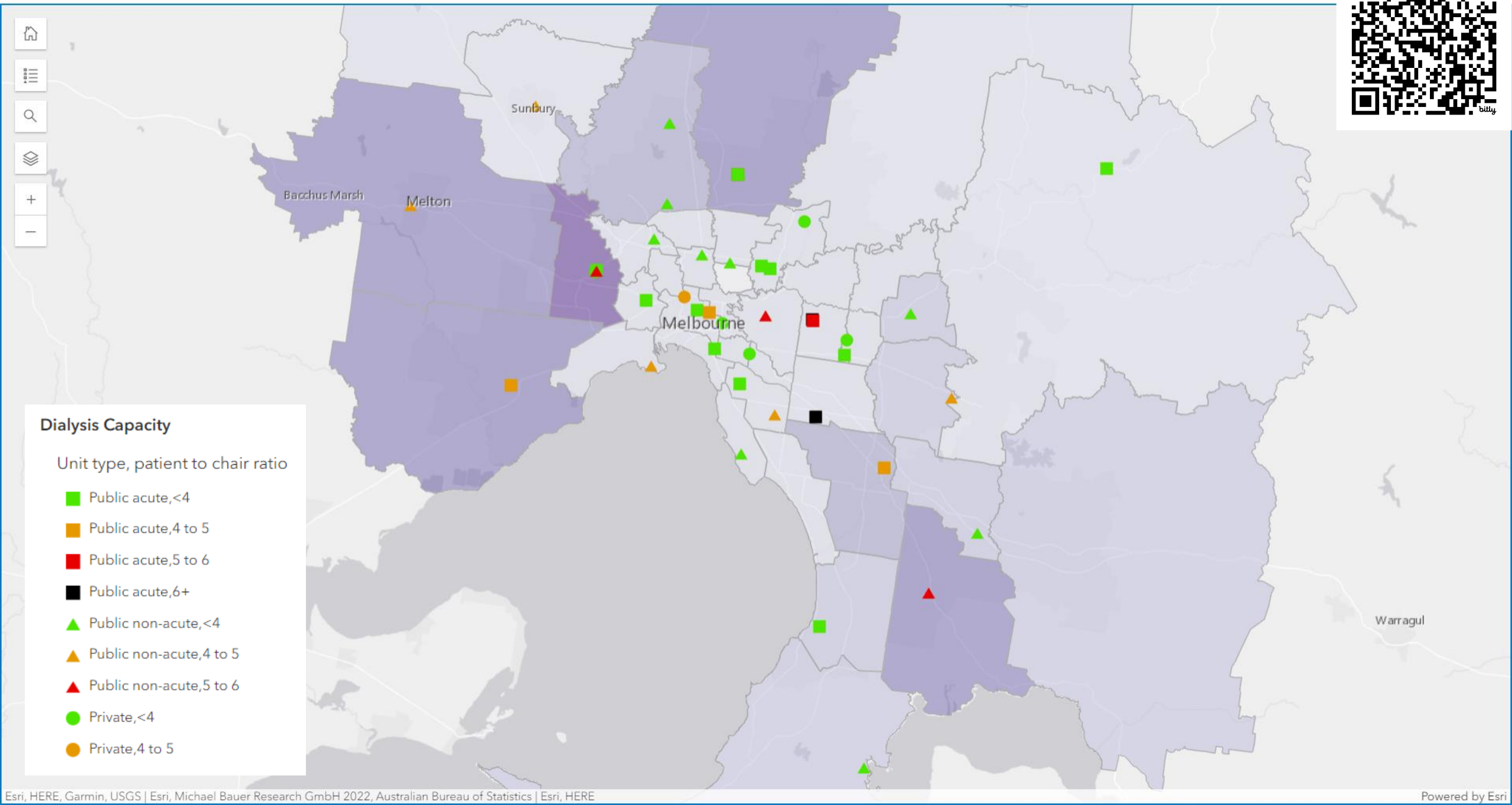

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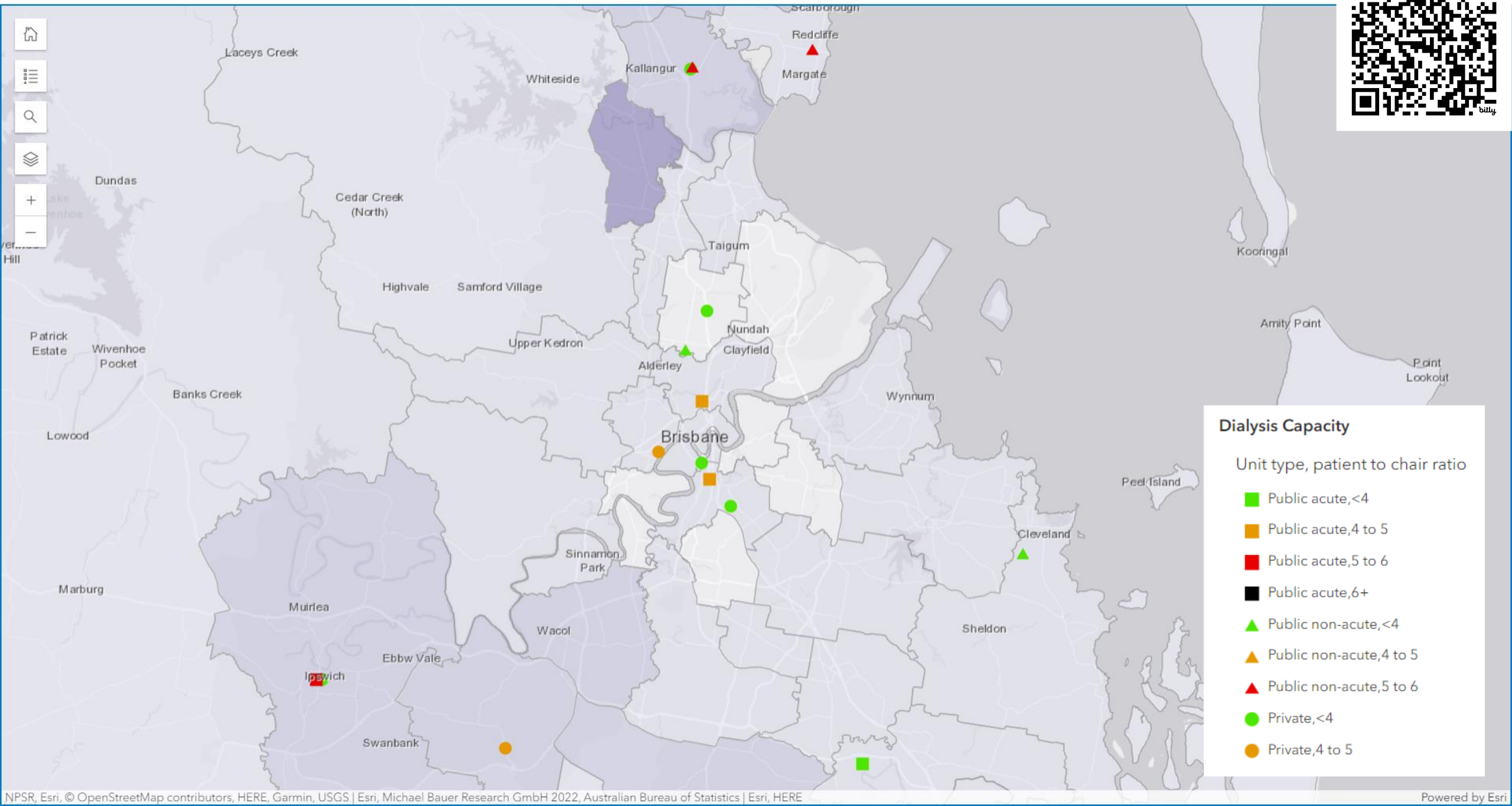

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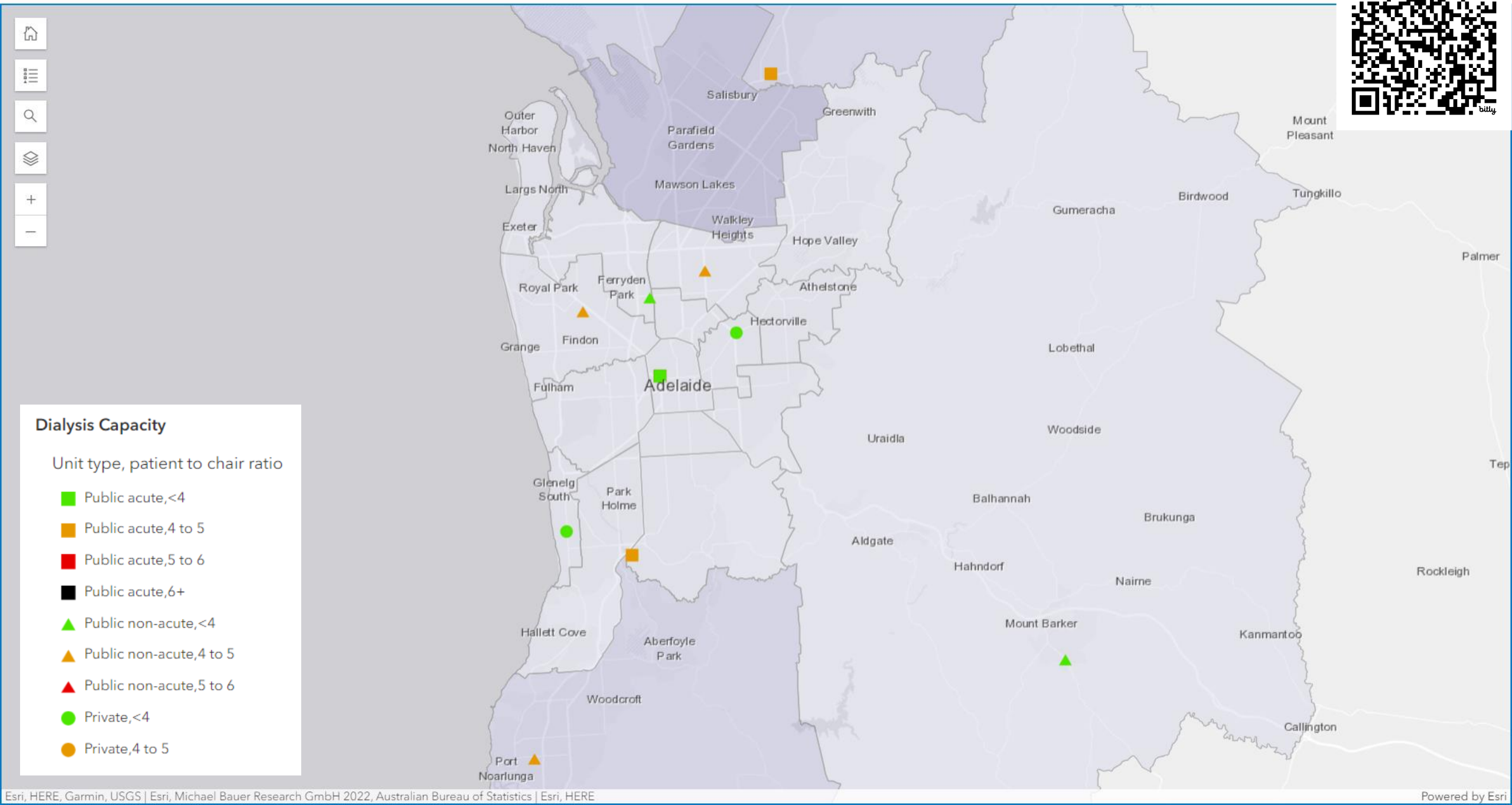

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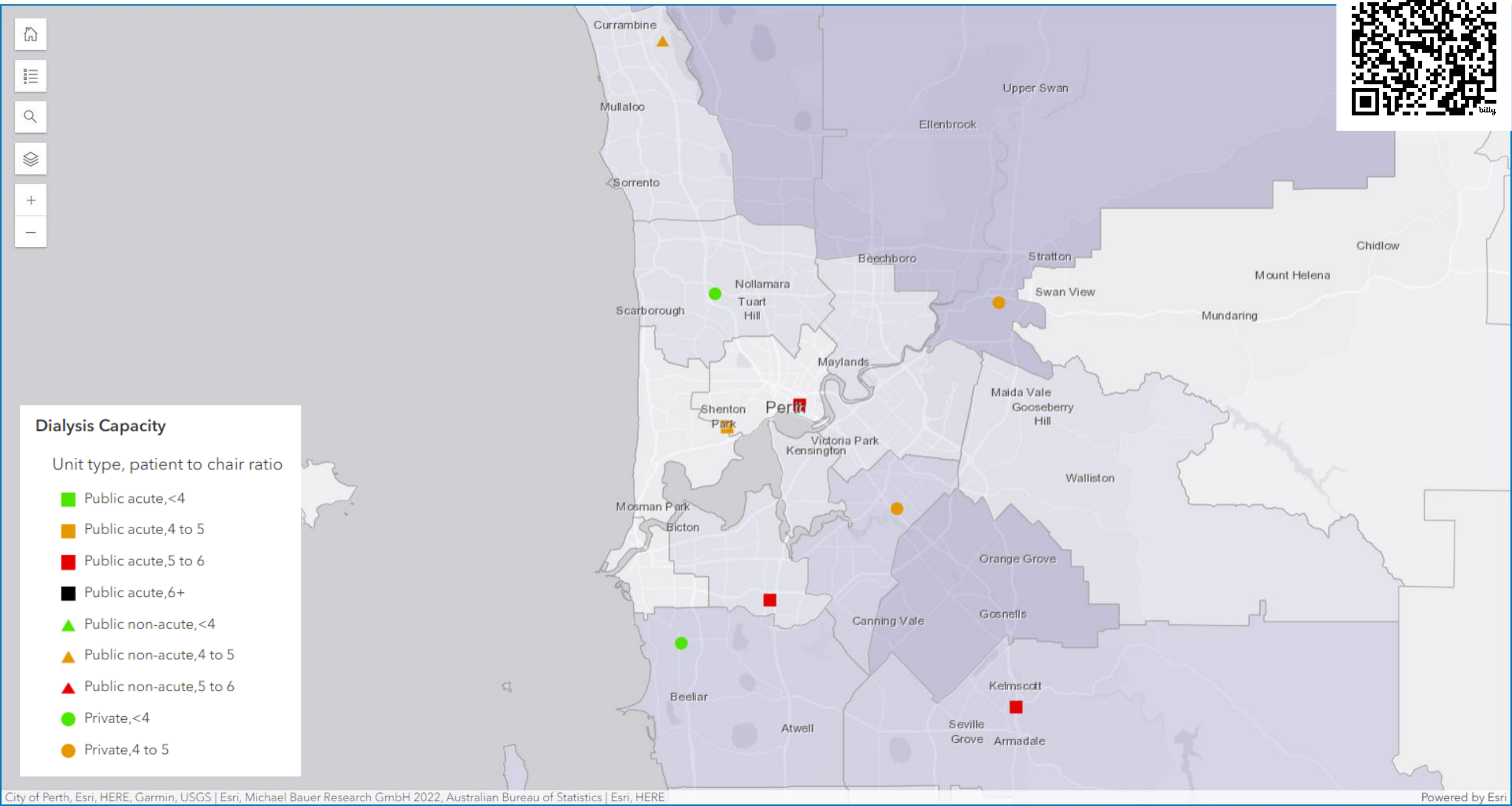

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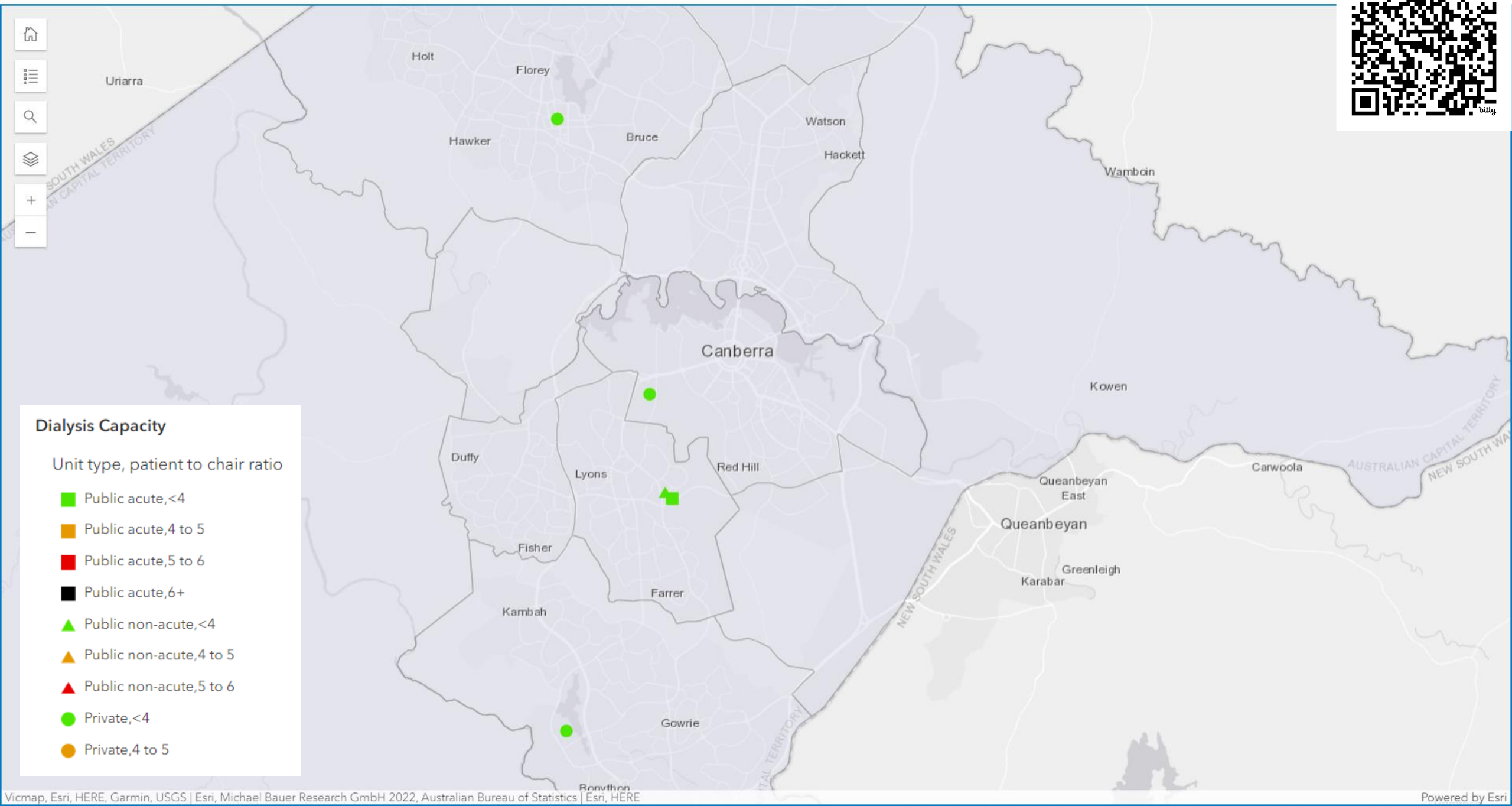

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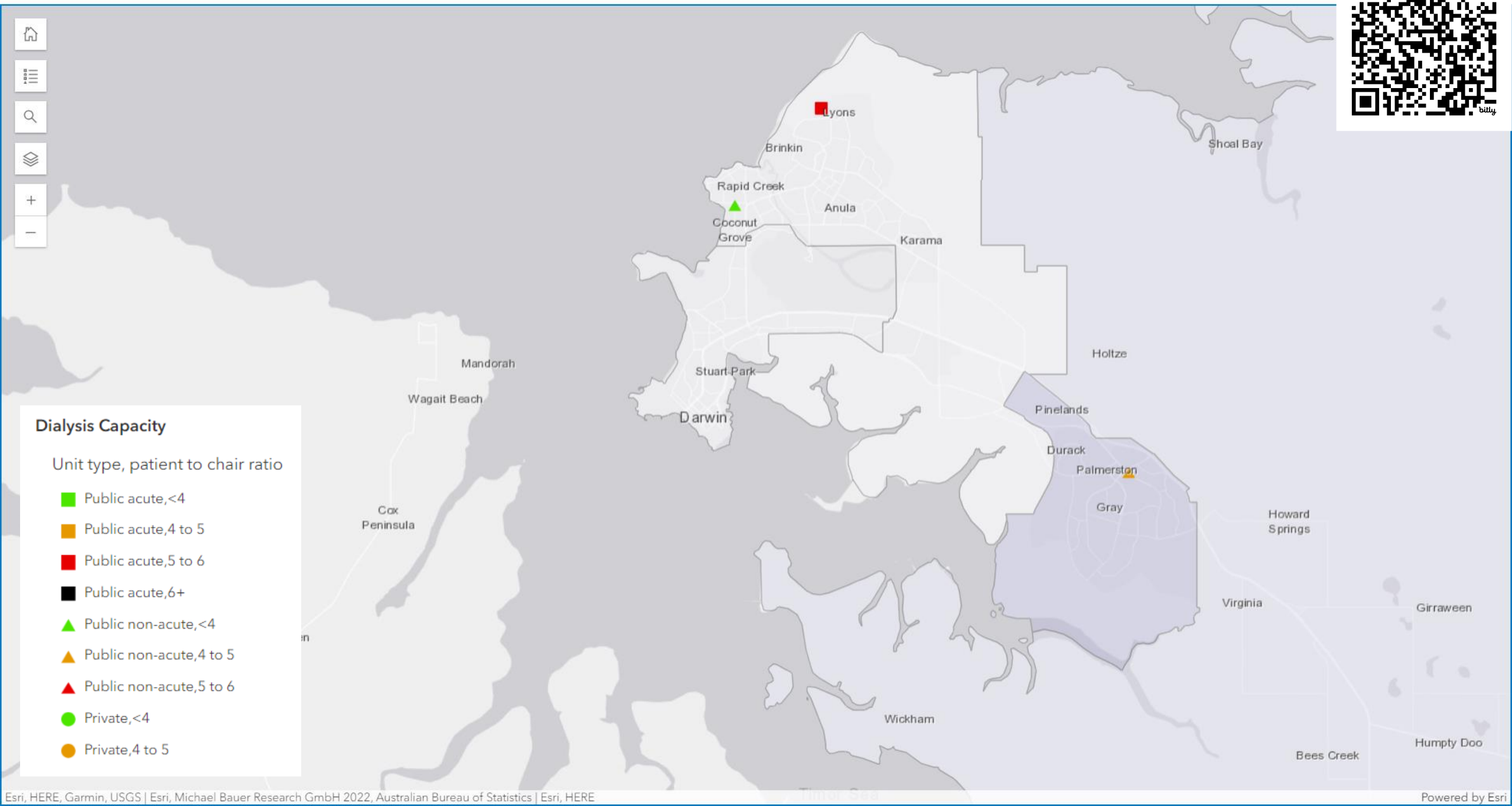

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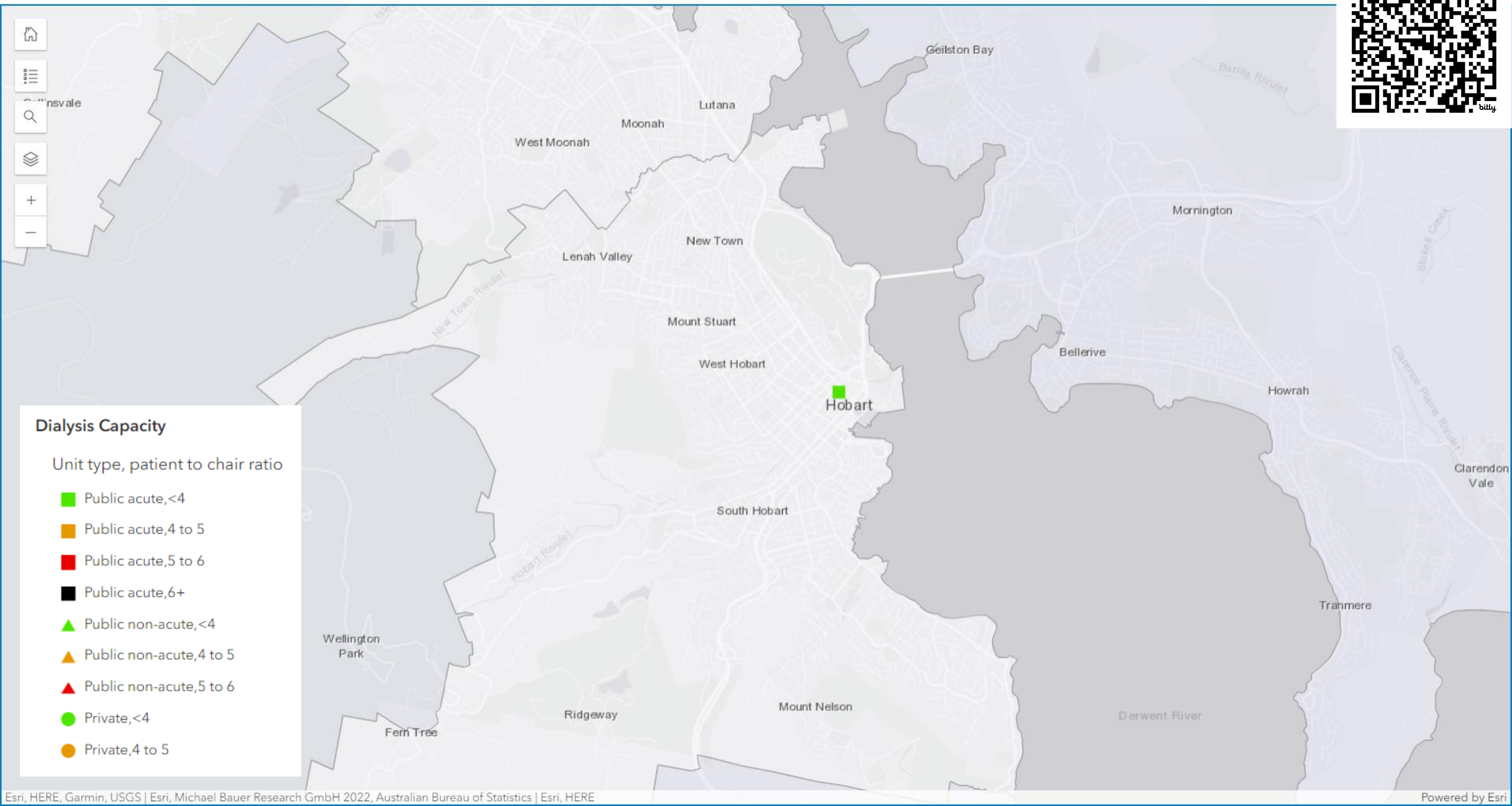
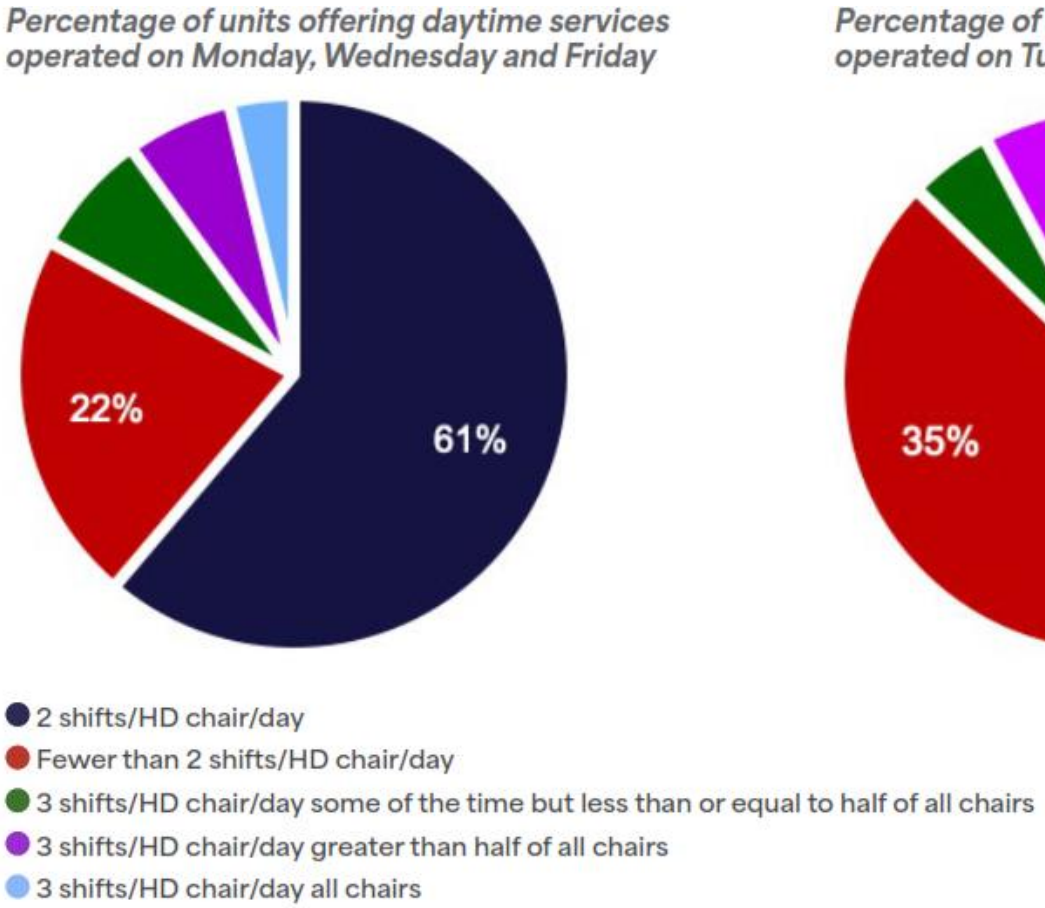


Shifts per dialysis chair



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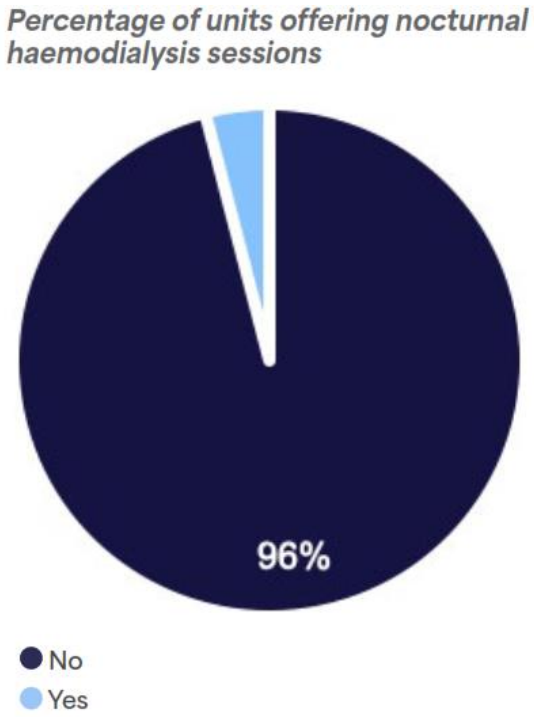
Nocturnal dialysis

- Nocturnal dialysis 13/331 (4%)



Days	N (%)
Monday	12 (92.3)
Tuesday	9 (69.2)
Wednesday	12 (92.3)
Thursday	9 (69.2)
Friday	12 (92.3)
Saturday	6 (46.1)
Sunday	4 (30.8)

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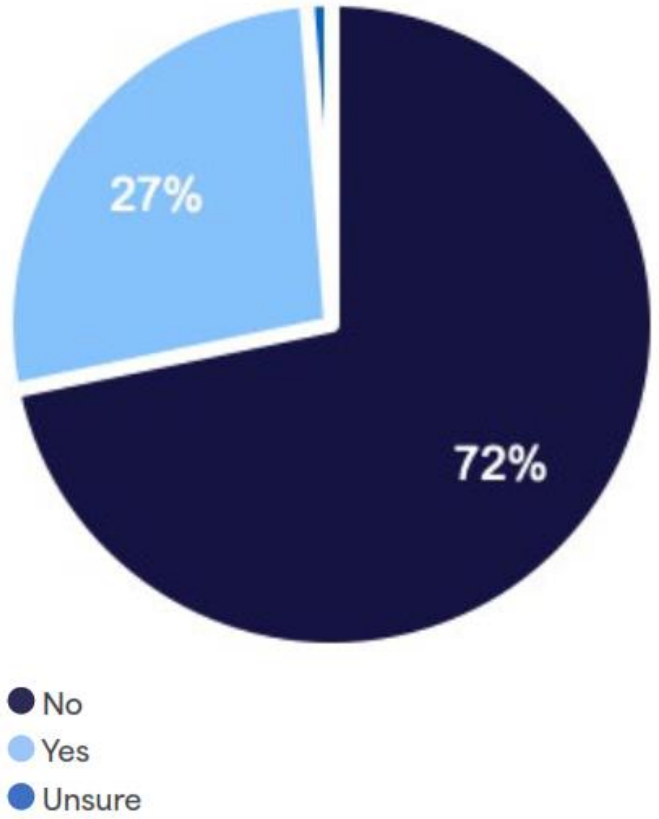
Do you have any haemodialysis chairs not operational?



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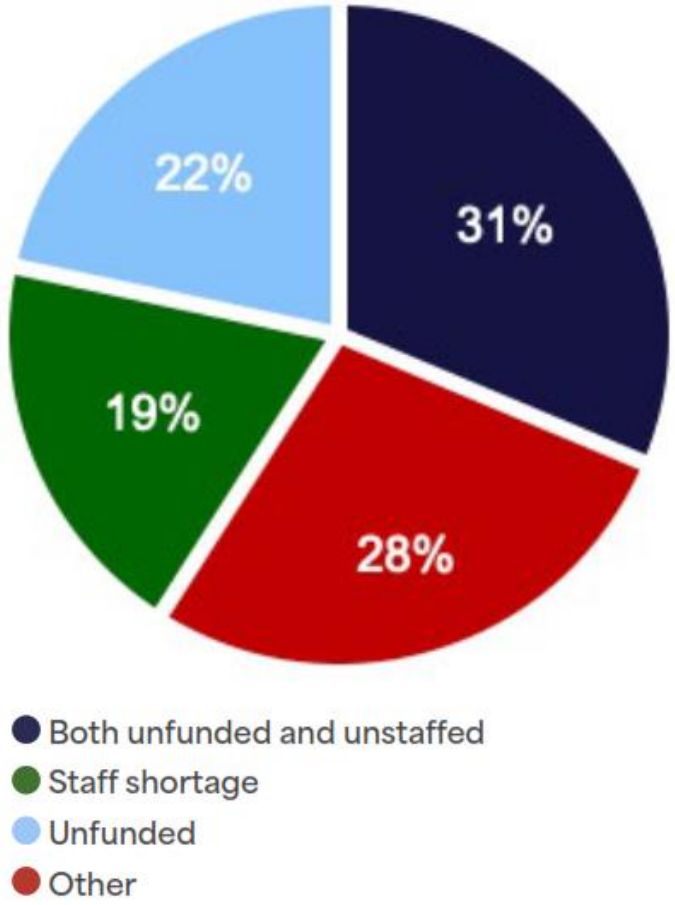
Reasons for having non-operational chairs



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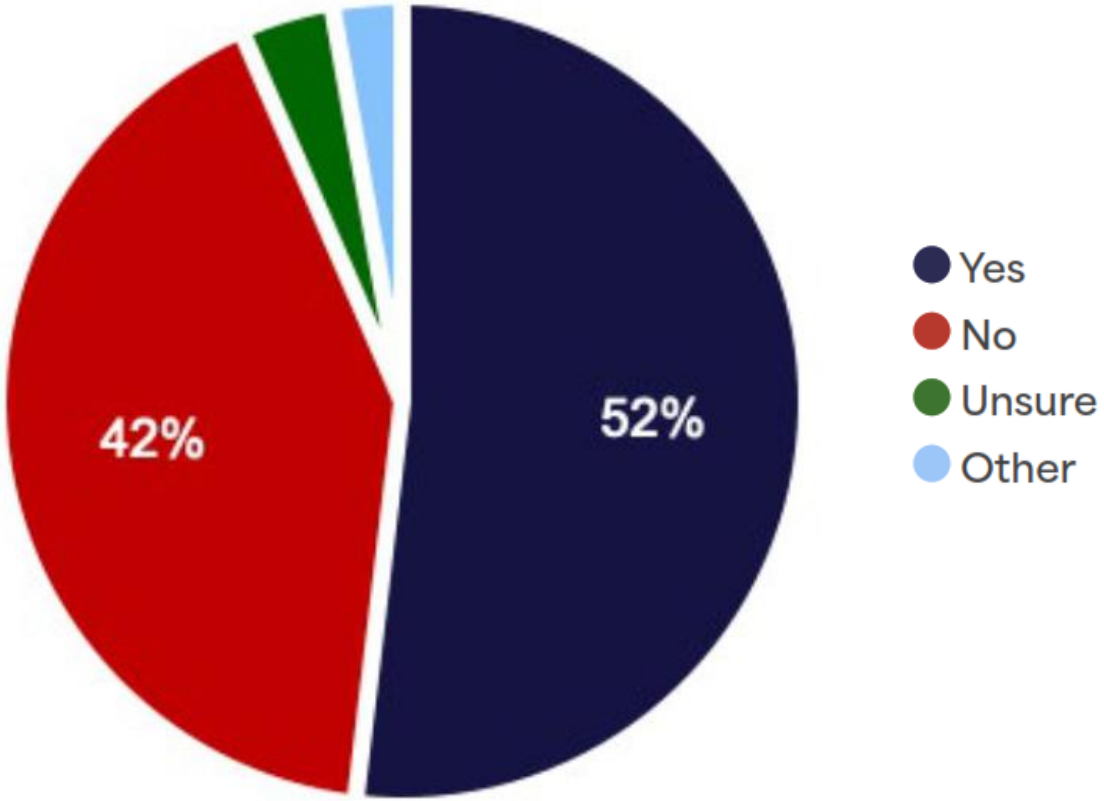
Waiting list for patients to commence dialysis



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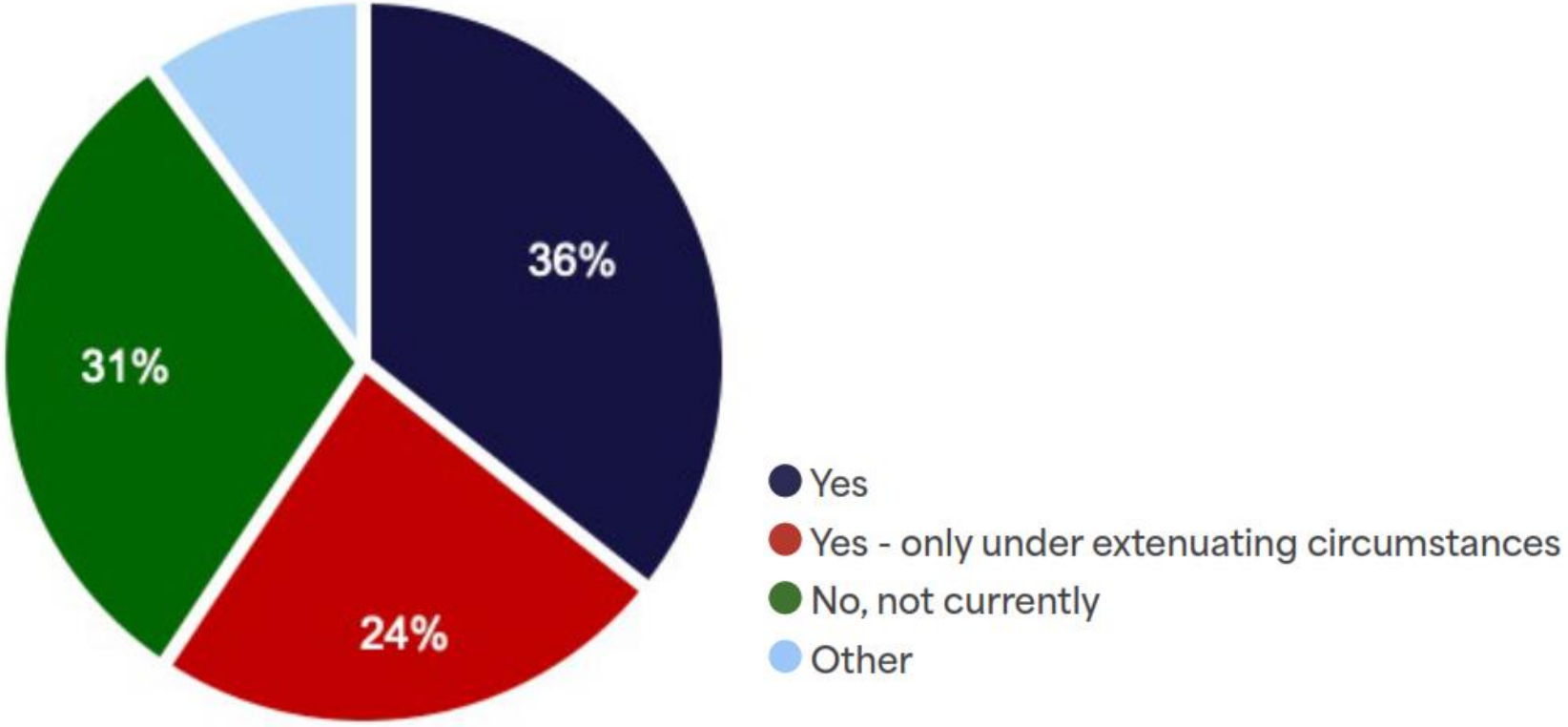
Routinely accept holiday dialysis patients



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Comments from dialysis units

"It is common for patients from interstate to "turn up" unannounced and we need to accommodate them regardless. Our unit has always been over capacity and we rely heavily on 'Did Not Attends' to manage, even though this does not address the problem."

"Increasing number of haemodialysis patients and less capacity beds (twice weekly patients to accommodate patients who required haemodialysis treatment)"

"Significant wait list and out of area patients"

"Staffing is difficult"

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Comments from dialysis units

"Daily juggling patients within the area health service to accommodate any no show patients/vacancy."

"Due to high demand of patients requiring dialysis treatment, we accept extra patients in between the 2 shifts, depending on staffing as well."

"This survey doesn't address the large burden of after-hours dialysis on staff. Also there are too many patients - not enough chairs/shifts."

"We are at full capacity, and we are dialysing patients in ICU for acute presentation."

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Comments from dialysis units

"Full and hate not been able to offer any holiday dialysis"

"Used to accept holiday dialysis patients when there was availability"

"We have full occupancy of Haemodialysis chairs and unable to provide holiday dialysis services."

"Have had holiday patients in the past but no currently. Over capacity"

"We cannot accept any holiday patients. Currently running at full funded capacity."

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HAEMODIALYSIS CAPACITY SURVEY

Large variation in dialysis capacity between regions and within major capital cities

"**Standard**" capacity is <4 long term dialysis patients per chair

Regular haemodialysis treatments needed for people with kidney failure

Survey of all 331 haemodialysis units in Australia & New Zealand

Over 50% of dialysis units reported a waiting list to start dialysis

Over 70% reported non-operational dialysis chairs due to lack of staffing or funding

Thank you

- All dialysis unit nursing managers/CNM/CNC and heads of unit who completed the survey
- All contributing renal units to ANZDATA

- Prof Stephen McDonald
- A/Prof Nick Gray
- Georgina Irish
- Phil Clayton
- Dominic Keuskamp
- Erandi Hewawasam
- Kylie Hurst
- ANZDATA team
- ANZDATA HD Working Group

- ANZSN Council
- PQC
- QISC

Email: eric@anzdata.org.au

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