FINAL REPORT OF THE NURSE PRACTITIONER RURAL OUTREACH MODEL

Executive summary

The Nurse Practitioner Rural Outreach Model (NPROM) was trialled in the Buloke, Loddon and Gannawarra (BLG) Shires of central and northwest Victoria, from January 2023 to April 2024. The research was led by the Integrated Health Network Alliance as part of the Sustainable Rural Health project, which includes members of Murray PHN, Northern District Community Health, Boort District Health, East Wimmera Health Service and Inglewood & District Health Service.

The model of care was co-designed to be place-based and use the existing underutilised nurse practitioner workforce within this region to improve primary healthcare access. The BLG region has a population of almost 25,000 people living in rural distributed communities all MMM5 with the largest town being Kerang. The limited and declining general practitioner (GP) workforce in this region is a major factor impacting current and future community health and wellbeing.

Primary healthcare services were delivered through the NPROM by two nurse practitioners (NPs) and three care coordinators (CCs) across five sites. Services were provided one day per fortnight per site for 12-months. Three sites were located within general practice clinics with GPs: one community health not-for-profit and two privates, and two were community health sites with no GPs onsite. The sites were in Buloke (1), Loddon (2) and Gannawarra (2) Shires. Four sites operated for 12-months, and the fifth site started near completion of the study, when it was determined the model was sustainable and could be scaled up.

Action research was embedded in the NPROM implementation to ensure the research findings were translated into model refinements for continuous quality improvement. The data is this report was collected through daily clinic data reports (n=71), time use diaries (n=77), and the patient experience surveys (n=295).

The findings demonstrate that NPROM achieves the Quintuple Aims of high-quality healthcare, including cost-effectiveness, improved health outcomes, high patient experience and provider experience, and improved rural equity. There were 673 patient consultations provided across the five sites, for 69% female and 31% males, with the majority (63%) of patients aged 60 years and older.

The model of care will be continued as a mixed billing, not-for-profit model, providing a minimum of 10 and ideal target of 14 patient consultations per day, with a mix of brief, short and long appointments. Commonwealth Government funding has been secured from the Innovative Model of Care grants program to expand the model to include allied health professionals for comprehensive multidisciplinary team care and additional sites to improve access for this rural population.

This pilot project received funding from Murray PHN and La Trobe University Violet Vines Marshan Research Centre for Rural Health. The project was delivered in accordance with procedures approved by Monash University Human Research Ethics Committee (project ID: 34616).

Citation: Hyett, N. Stephens, A. Hutchinson, M. Adem, T. Doyle, D., Coghill, D., O'Brien, S., Fabry, Y., Lees, C., & O'Sullivan, B. (2024) Nurse Practitioner Rural Outreach Model (NP-ROM): Final report. Murray PHN (Primary Health Network). Dja Dja Wurrung Country (Bendigo).

Background and scope

The following summarises data that has been supplied for the nurse practitioner rural outreach model of care (NPROM) pilot:

- The 12-month pilot period was implemented over four quarters using an action research methodology, to enable evaluation findings to be used to refine the model of care through real-time knowledge translation.
- Improvements were made to data protocols in Quarter 2 to respond to data quality issues identified in Quarter 1, which means that some GP referrals made in Quarter 1 were missed in the data collection.
- The NPROM was provided by a nurse practitioner and a care coordinator one day per fortnight, per site for 12 months. However, there was no leave cover available for the nurse practitioners therefore when they were on leave no services were provided at the site. The sites were, in order of commencement, Loddon 1, Gannawarra 1, Gannawarra 2, Buloke 1 and Loddon 2.
- Data is reported to address the Quintuple Aims of high-quality healthcare, which includes primary healthcare outcomes, cost-effectiveness, patient experience, provider experience, and equity.
- The pilot outcomes demonstrate the model of care has high patient satisfaction, improves access to primary healthcare for rural communities, is cost-effective in that it can be continued as a mixed billings, not-for-profit cost neutral model with slim margins - where a minimum of 10 and ideal target of 14 patient consultations need to be delivered in a day, with a mix of brief, short and long appointments.
- It is recommended that the model is continued and scaled up in the BLG to include leave cover and additional sites to improve access for this rural distributed population.

Figure 1. Buloke, Loddon and Gannawarra Shires in the Murray PHN catchment.

Methodology

The NPROM was co-designed, implemented and evaluated as a pilot of the Sustainable Rural Health project, led by the Integrated Health Network Alliance.

The team included IHN Alliance members and nurse practitioners as co-researchers, led by Murray PHN researchers.

The overall aim of the research was to evaluate a pilot nurse practitioner rural outreach model of care in the BLG rural region of Victoria and determine health outcomes and sustainability.

Key research questions were:

1. What is the patient experience of the NP model of care?
2. What is the provider experience of the NP model of care?
3. What is the cost/benefit of the NP model of care?
4. What are the barriers/enablers to model sustainability?
5. What are the impacts of the NP model of care relating to equity of access and outcomes?
6. What are the health outcomes for patients, the community, and the health system?

Data were collected from the following sources to inform the research questions:

Table 1. Overview of research methodology

Data	Research questions	Months				
		0	3	6	9	12
Operational Working Group meeting records *Written meeting notes and attachments.*	2, 3, 4, 5, 6	✓	✓	✓	✓	✓
Healthcare provider interviews *Semi-structured qualitative interviews (30mins) recorded and transcribed verbatim.*	2, 3, 4, 5, 6			✓		
Patient Experience Survey *10min survey completed hard copy or online.*	1, 2, 4, 5, 6		✓	✓	✓	✓
Daily clinic report *Deidentified clinic data and MBS billings.*	3, 4		✓	✓	✓	✓
GP practice software data *Deidentified data extracts from practice software reporting on patient chronic disease prevalence and MBS items.*	3, 5, 6	✓	✓	✓	✓	✓
Daily activity log *Daily activity log reported by NP and CC to describe time use using defined categories and percentage.*	3, 4		✓	✓	✓	✓

Results

1. Primary healthcare outcomes

Table 2. Program overview

	Loddon 1	Gannawarra 1	Gannawarra 2	Buloke 1	Loddon 2*	TOTAL
Total no. of clinic days	20	14	16	18	3	71
Total no. of patient consultations	193	134	104	222	20	673
Average no. of patient consultations per clinic day	10	10	7	12	7	9
Total no. of new patients	12 (6%)	0	2 (2%)	10 (5%)	0	24 (4%)
Gender						
Women	135 (70%)	109 (81%)	63 (61%)	142 (64%)	17 (85%)	466 (69%)
Men	58 (30%)	25 (19%)	41 (39%)	80 (36%)	3 (15%)	207 (31%)

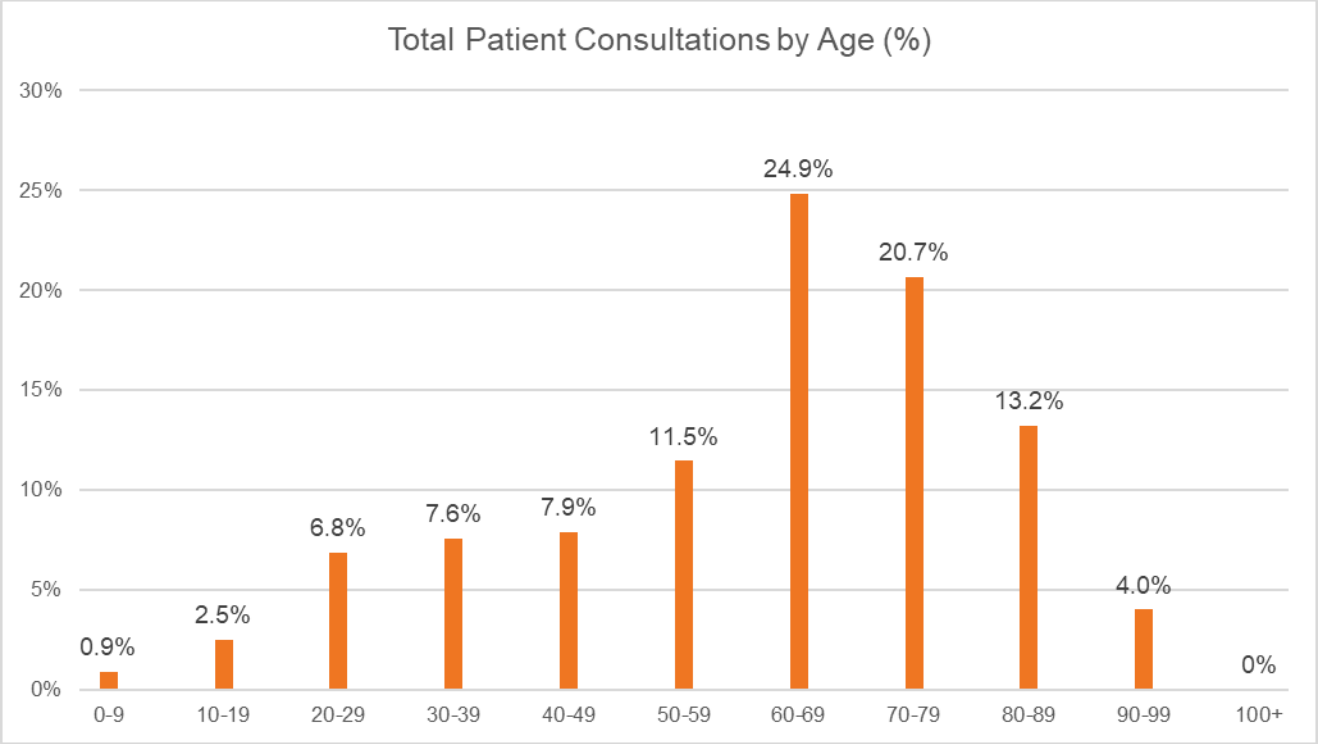
*Loddon 2 site commenced in Q4 only

- The NPROM was delivered at four sites for 12 months (Loddon 1, Gannawarra 1, Gannawarra 2, and Buloke 1) and one additional site in the last quarter (Loddon 2).
- The average (mean) number of patient consultations delivered in one clinic day was nine with a range of seven at the community health sites with no GP on site (Gannawarra 2, Loddon 2), to 10 (Loddon 1, Gannawarra 1) and 12 (Buloke 1) at the general practice sites. For the program to be sustainable, a balance of general practice and community health sites need to be maintained to achieve sufficient revenue to cover total program costs.
- The majority of patient consultations were provided for women, which is likely because the NPROM addressed a service gap in women's health; the two nurse practitioners were female with women's health expertise, and the majority of GPs in this region are male.
- Of all patient consultations provided, only four per cent (4%) were for patients who were new to the general practice or community health host site, which demonstrates the NPROM provided primary healthcare services for people already accessing primary healthcare at the site.

Total patient consultations by age (%)

Services were provided for people across the lifespan, demonstrating the importance of the NPs having generalist skills for people in all age groups and developmental stages. Most patient consultations were for people aged 60 years and older (422, 63%).

Figure 2. Total patient consultations by age



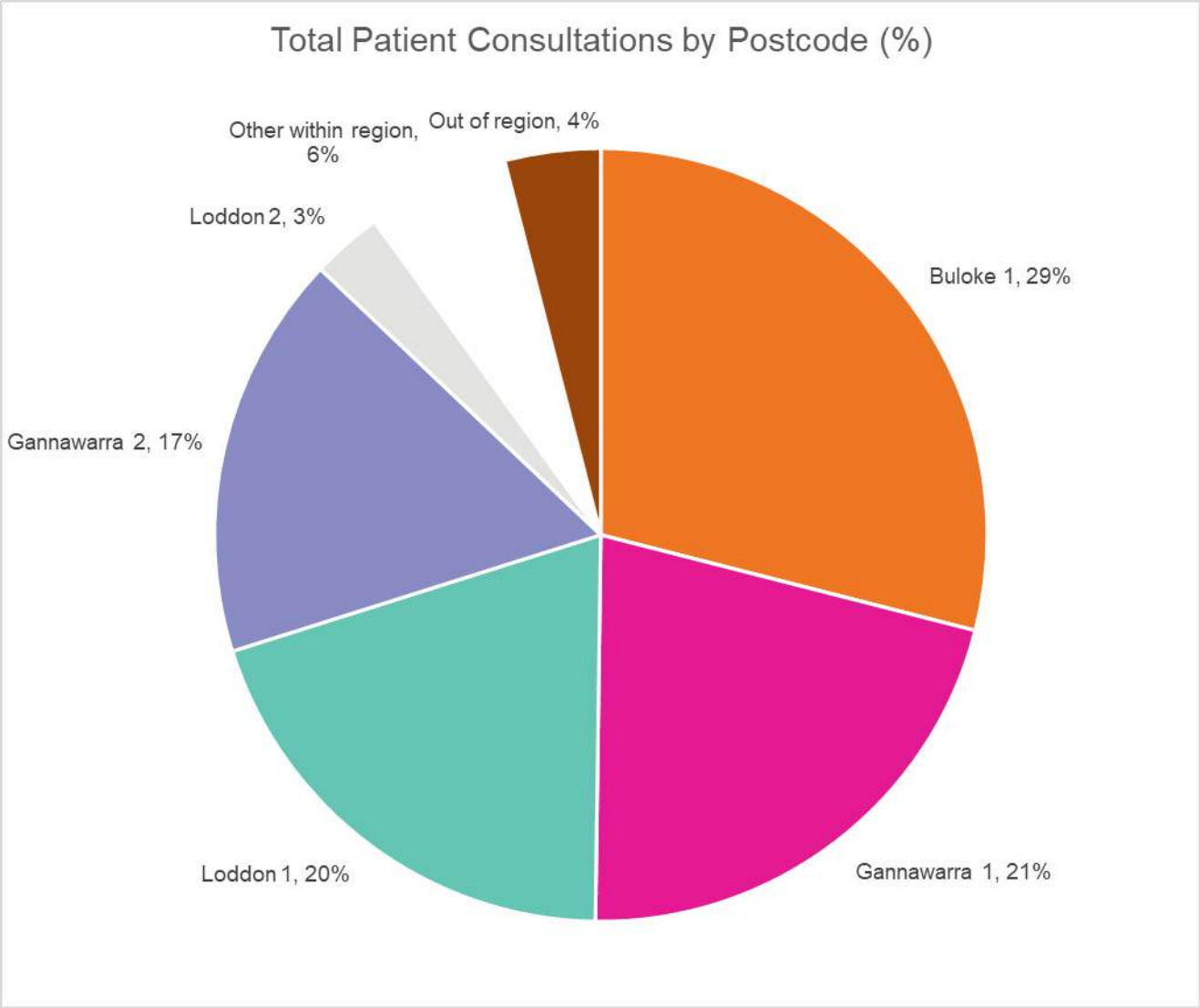
Access

Patient consultations by postcode

The majority of the patient consultations were provided for people residing in the town and postcode where the program was delivered (606, 90%) and in postcodes within the broader BLG region (40, 6%), which demonstrates the NPROM achieved the objective of providing care close to home.

Fewer consultations were provided for people who lived outside of the region (27, 4%). The nurse practitioner providing services at Loddon 1 and Buloke 1 provided medicinal cannabis prescribing as one of her specialty skills, therefore this might have included patients that travelled from neighbouring Shires to access this specialty prescribing. However, there is another local prescriber and there are many medical cannabis services available by telehealth and in regional and metropolitan centres, so this was unlikely to have been the only reason for patient travel. Patients may have also been visiting the region for work or personal reasons.

Figure 3. Total patient consultations by postcode

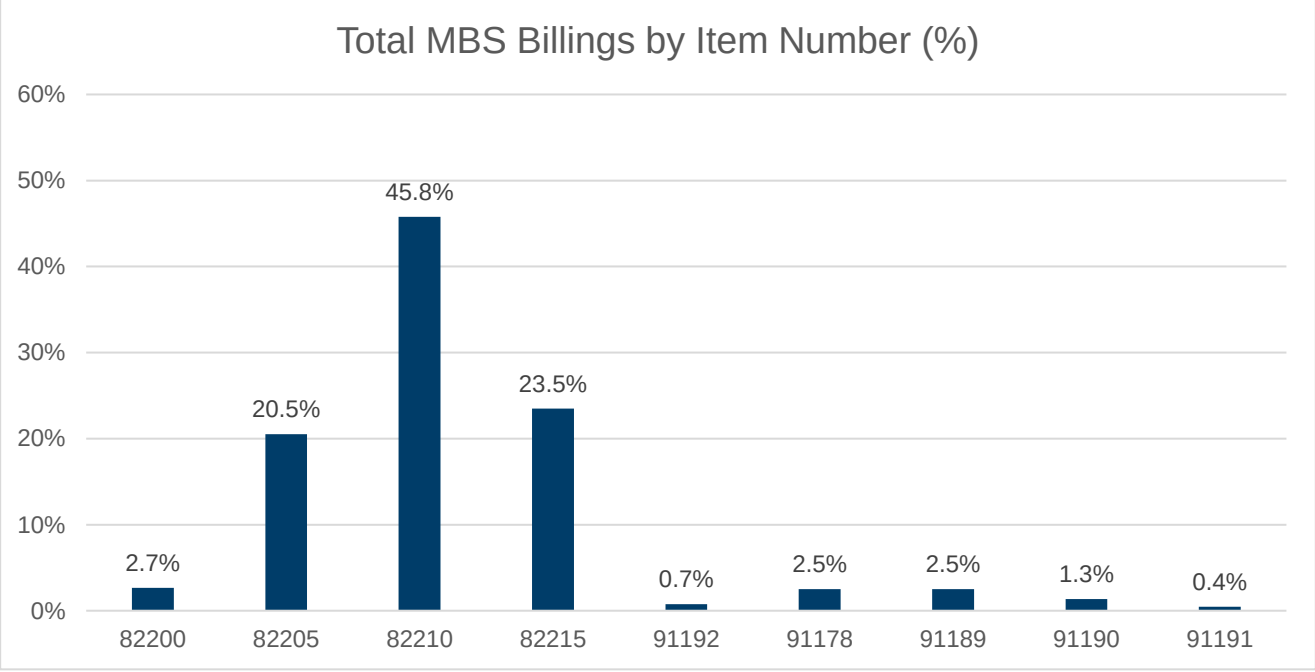


Cost-effectiveness

Table 4. Program total Medicare billings (benefit FY23/24)

MBS items	Total	Total %	Revenue
82200 (less than 20 minutes… benefit $8.95*)	18	3%	$161.10
82205 (less than 20 minutes… benefit $19.55)	138	21%	$2697.90
82210 (at least 20 minutes… benefit $37.00)	308	46%	$11,396
82215 (at least 40 minutes… benefit $54.60)	158	23%	$8626.80
91192 (telehealth… benefit $8.95)	5	1%	$44.75
91178 (telehealth less than 20 minutes… benefit $19.55)	17	3%	$332.35
91179 (telehealth at least 20 minutes… benefit $37.00	0	-	-
91180 (telehealth at least 40 minutes… benefit $54.60)	0	-	-
91193 (phone less than 20 minutes… benefit 8.95)	0	-	-
91189 (phone less than 20 minutes… $19.55)	17	3%	$332.35
91190 (phone at least 20 minutes… $37)	9	1%	$333
91191 (phone at least 40 minutes… $54.60)	3	0.5%	$164.70
Total MBS revenue	**673**	**100%**	**$24,088.95**
Average MBS revenue per clinic day			$339.28

Figure 4. MBS Billings by Item Number (%)



The combination of patient consultations was approximately 2:1:1 ratio for 20-minute appointments (short, 82210), versus 10-minute (brief, 82205) and 40-minute (long, 82215) appointments. This combination was a result of provider preferences and client demand and is recommended for ongoing program sustainability. The video and phone telehealth items were not used frequently.

The overall average MBS billings per day was $339, but this was different across sites, with the sites located in general practice clinics having higher average MBS billings per clinic day (Loddon 1 $369 per day, Gannawarra 1 $312 per day, and Buloke 1 $399 per day) in comparison with the sites located in community health services with no GPs on site (Gannawarra 2 $265 per day, and Loddon 2 $253 per day).

Table 5. Program total general practitioner revenue from shared care

	MBS		Total	
	Item	Benefit	N	$
Standard consultation	3	$18.85	26	$490
Health assessment	703	$151.05	15	$2266
Chronic disease management plan	721	$158	11	$1738
Mental health management plan	2715	$99.70	19	$1894
Chronic disease management plan review	732	$78.90	10	$789
Mental health management plan review	277	$62.85	7	$440
Other consultation	3	$18.85	25	$471
Total			**113**	**$8088**
Total with rural bulk billing incentive	**75856**	**$11.75**		**$9416**
Estimated average revenue from EPC and Shared care with rBBI per clinic day				*$133*

The nurse practitioner was supported by the care coordinator, to refer patients to the GP for Enhanced Primary Care and for shared care, which creates additional revenue for the GPs. Across the program, the average revenue for the GP per day was $133, however the revenue was higher at the private general practice sites in Loddon 1 (46 referrals, $5645 in revenue) and Buloke 1 (44 referrals, $2794 in revenue) when compared with the community health sites at Gannawarra 1 (10 referrals, $438 in revenue), Gannawarra 2 (13 referrals, $539 in revenue), and Loddon 2 (3 referrals, $92 in revenue over Q4 only).

Time-use

A record of the time use of the nurse practitioners and care coordinators was captured using a daily activity log during a proportion of the pilot period to provide insight into their clinic day and what time is attributed to different aspects of their roles. These data will inform future planning for multidisciplinary team care, funding and MBS billing where appropriate.

Nurse practitioner time use

During the first half of the pilot period, the nurse practitioners recorded their estimated time-use at the end of each clinic day. The record keeping was ceased at the quarter two evaluation point because the findings were not resulting in any new insights to inform clinic planning.

For the NP working at Loddon 1 and Buloke 1, both of which were private general practice sites, eight time-use diaries were recorded, and which demonstrated, that the average estimated direct clinical time was 74%, that 13% was time spent on indirect clinical services relating to patient care and 13% other administration tasks relating to program management. Average estimated collaboration time was seven minutes per day with the GP (0-15 minutes), 38 minutes with the care coordinator (30-60 minutes), and 19 minutes with other staff (0-30 minutes).

The nurse practitioner working at Gannawarra 1 and 2 recorded a total of 24 time-use diaries. At Gannawarra 1, which is a community health site with GPs, an average of 62% direct clinical time was recorded, with 20% indirect clinical time, and 18% other administration. Estimated collaboration time was 15 minutes with GPs (10-20 minutes), 47 minutes with the care coordinator (0-60 minutes), and 25 minutes with other staff (10-45 minutes). At Gannawarra 2, which is a community health site with no GPs, the average estimated clinical time was 56%, with 19% for indirect clinical and 25% other administration activities. Estimated collaboration time with GPs (remotely) was 10 minutes (0-20 minutes), with the care coordinator was 59 minutes (15-90 minutes), and other staff was 24 minutes (15-40 minutes)

Care coordinator time-use

Care coordinators also recorded time-use diaries for a proportion of the pilot, to provide insights and help with clinic model refinement. A total of 45 diaries were recorded by three care coordinators. The average estimated time included 35% direct clinical activities, 30% indirect clinical activities, and 35% other administration. Direct clinical time was higher for care coordinators with more clinical and community care experience. Their average estimated collaboration time with the GP was 3 minutes per day (0-20 minutes), with the NP was 93 minutes (10 to 120 minutes), and other staff was 43 minutes (0-120 minutes).

Patient experience

There were 295 Patient Experience Surveys submitted during the 12-month research pilot. The survey results provide a good reflection of patient experience of the program overall, across sites and from different gender and age perspectives.

Table 6. Patient experience survey responses by site and gender

	Loddon 1	Gannawarra 1	Gannawarra 2	Buloke 1	Loddon 2	Total
Total number of survey responses	64 22%	63 21%	22 7%	141 48%	5 2%	**295** **100%**
Gender						
Women	54 84%	48 76%	12 55%	93 66%	4 80%	**211** **72%**
Men	10 16%	15 24%	10 45%	48 34%	1 20%	**84** **28%**

**Loddon 2 site was commenced in Q4 only.*

Figure 5. Total patient experience survey responses by age

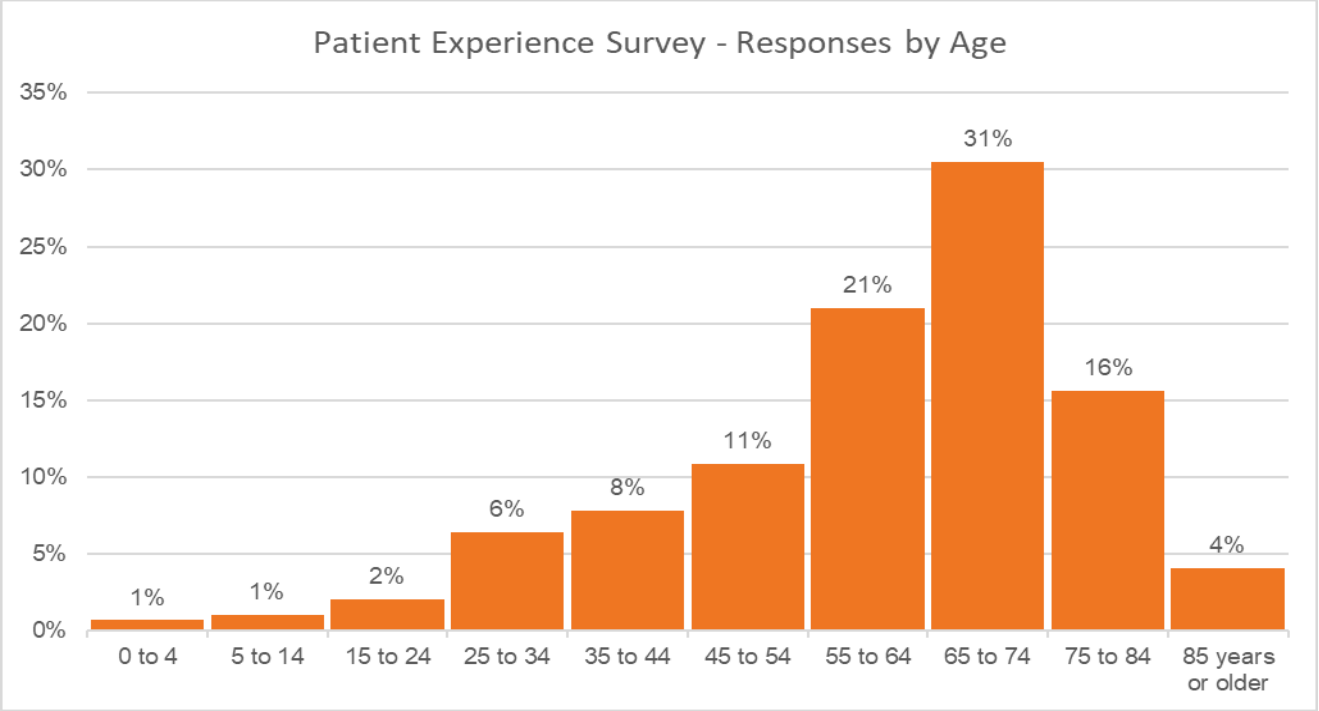
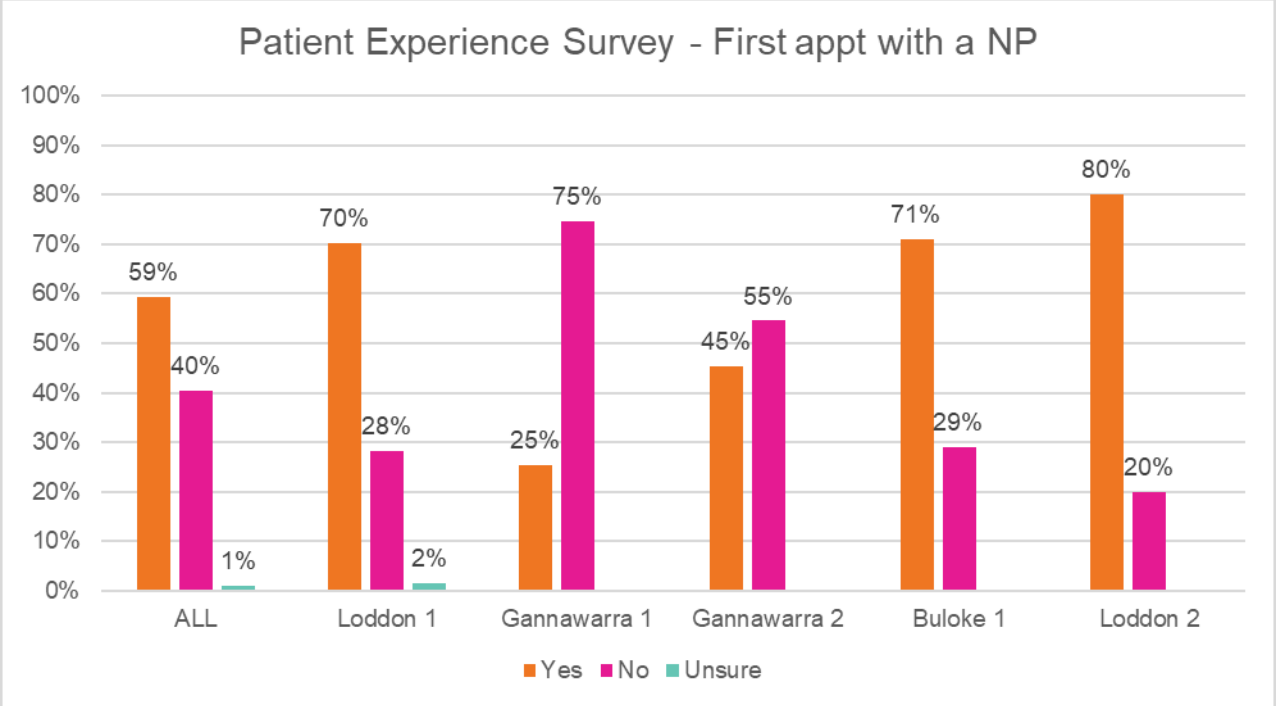
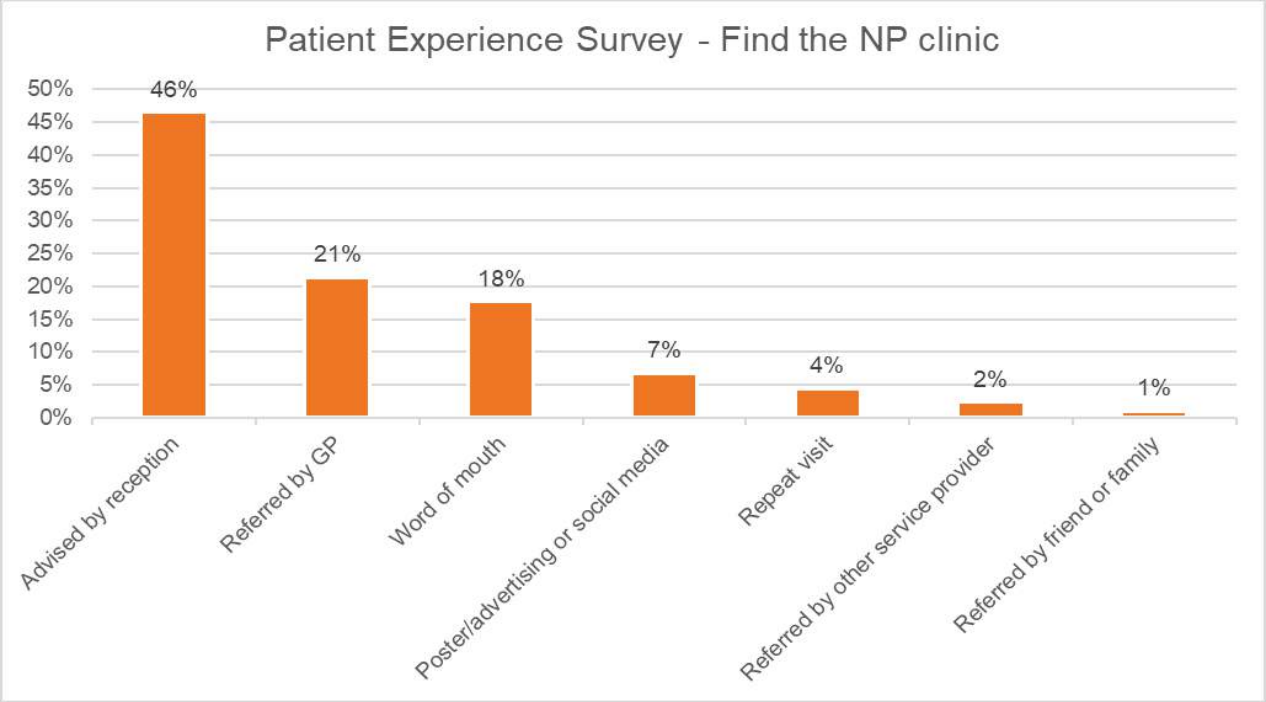


Figure 6. Survey responses to "Was this your first appointment with a nurse practitioner?"



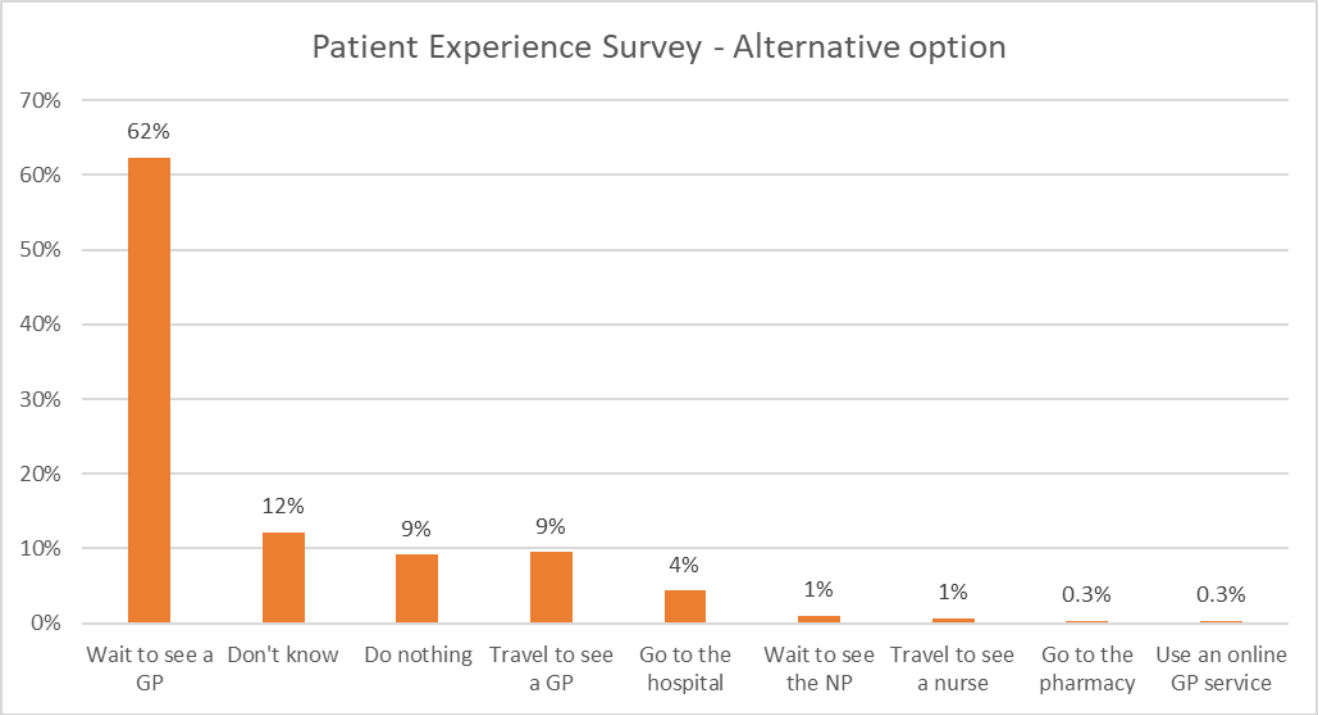
For majority of survey participants in Loddon 1, Buloke 1 and Loddon 2, this was their first appointment with a nurse practitioner, which was different to Gannawarra 1, where there was an existing nurse practitioner service and Gannawarra 2, where nurse practitioner services had been provided in the past but had been ceased due to sustainability issues.

Figure 7. Survey responses to "How did you find out about the Nurse Practitioner Clinic?"



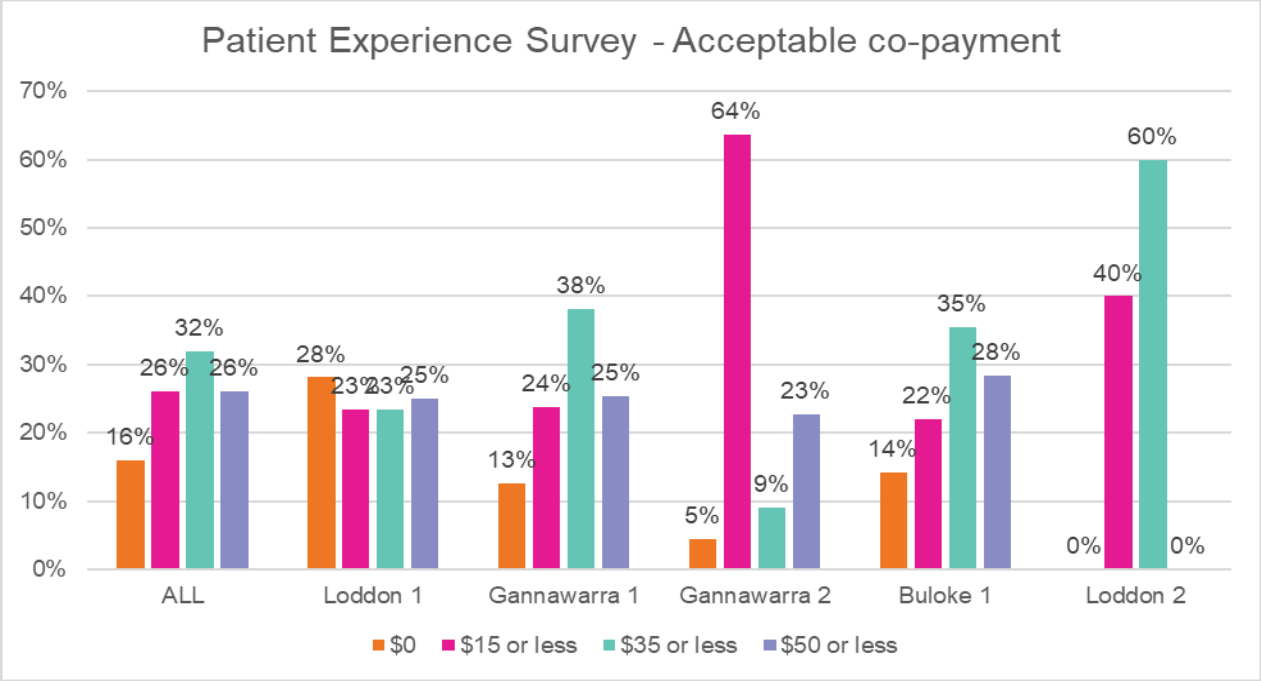
Many people who completed the survey had found the nurse practitioner clinic through advice from reception or by referral from their GP.

Figure 8. Survey responses to "What would you have done to manage your personal health need today if you were not able to see the Nurse Practitioner?"



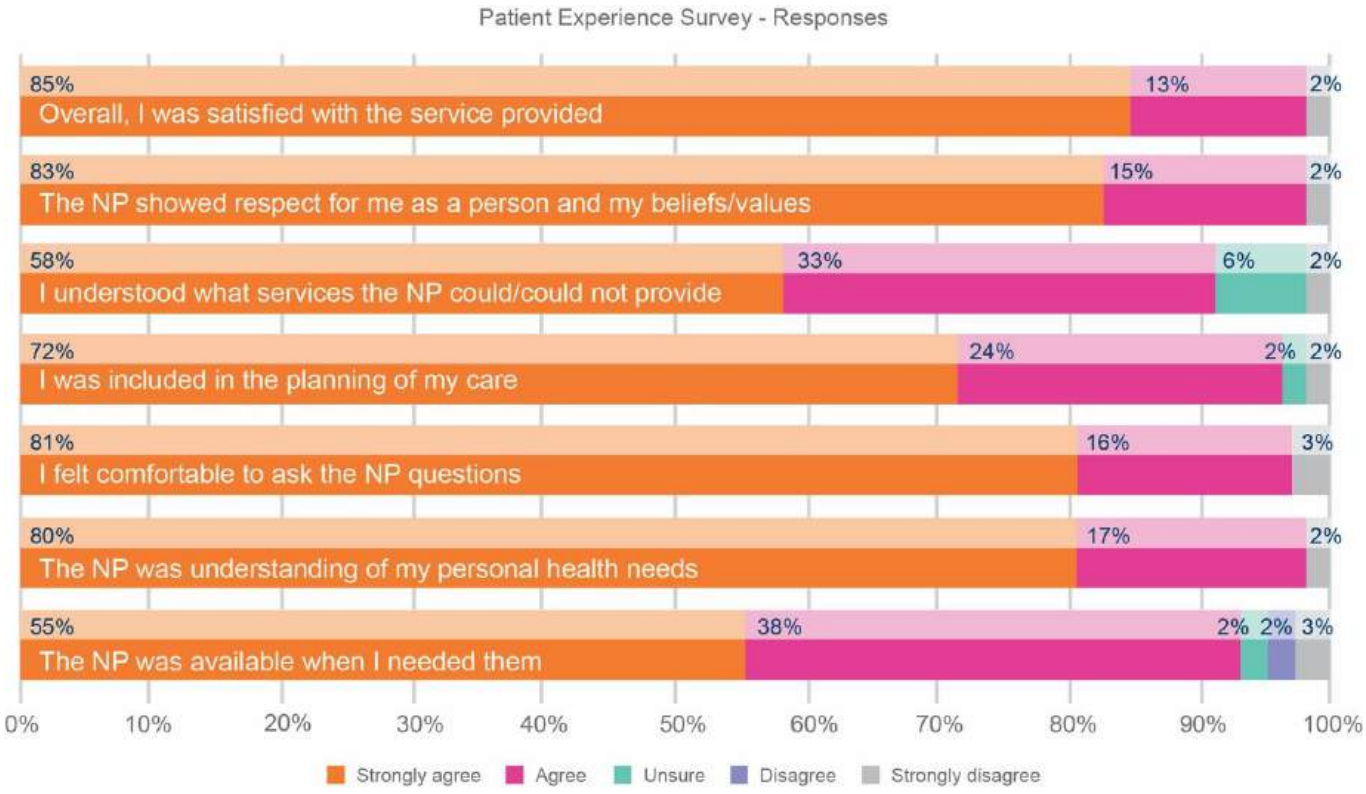
Most survey respondents would wait to see a GP if they had not been able to access the nurse practitioner clinic, but 21% said that they "Don't know" or would "Do nothing".

Figure 9. Survey responses to "Your visit today was fully bulk billed, if in future you had to pay to use this service, what would you be willing or able to contribute?"



The majority of survey participants reported they would be willing and/or able to contribute a co-payment.

Figure 10. Patient Experience, program total



**Please note there were four participant survey responses that selected "Strongly Disagree" for all experience questions but provided positive feedback in the open-ended question responses, which indicates that they might have accidentally entered disagree instead of agree.*

The best things about this service were…

All of the patient responses to this open-ended question were coded to the key themes in Figure 11, which are key to high quality patient care.

Figure 11. Service satisfaction

Patient-centred care Described as friendly, caring, supportive, comfortable, approachable, attentive.	• *"The nurse was extremely considerate, competent and easy to talk to"* - Loddon 1 • *"I am usually not comfortable with health professionals. However, the nurse practitioner made me feel comfortable immediately"* - Loddon 1
High quality care Described as knowledgeable, informed, thorough, helpful advice, professional/	• *"I was attended to immediately and she was very thorough"* - Gannawarra 1 • *"Availability on short notice for an urgent issue. Excellent understanding of female health issues and excellent with young children"* - Buloke 1

Accessible Described by availability, bulk-billing, local service, no travel.	• *"Didn't have to travel 40kms to see a doctor"* - Gannawarra 2 • "*Available earlier than Dr"* - Gannawarra 1 • *"Being in local community not needing to travel feel independent taking myself without support"* - Gannawarra 2 • *"Able to walk to the service instead of driving 40km drive"* - Gannawarra 2
Good length of consultation Described as not rushed.	• *"Nurse Practitioner took the time to discuss my health and ongoing treatment"* - Gannawarra 1 • *"We had longer to chat"* - Buloke 1
Choice Described by options e.g. for pain management, women's health.	• *"Felt listen to explained many things that have not been explained in the past so was great with the nurse practitioner explaining this"* - Gannawarra 1
Effective service delivery Described as organised and coordinated.	• *"I felt incredibly confident, as good as a Dr"* - Buloke 1 • *"When the Dr is not available I am able to see the NP and feel confident"* - Buloke 1 • *"The nurse was very understanding; I suspect we will need her to visit more than once a fortnight. The service will take a lot of pressure off our overworked doctor"* - Buloke 1
Appropriate alternative to GP Described when patients made their own comparisons.	• *"Being able to access health needs without waiting for a GP always being able to discuss things easily get scripts bloods ordered that don't need to support of a GP"* - Gannawarra 1 • *"A more understanding Medical Practitioner spending a little extra time than a GP"* - Loddon 1

My experience would have been better if…

Most people who responded to this open ended question stated, that they had no concerns. The other comments indicated that some people would like more information on what could be offered by nurse practitioner services or requested that the services be available more often. One person commented on the chairs, "More comfy chairs in the clinic" (Loddon 1); and one person said they would have preferred to see a GP, if "I could have seen a GP" (Buloke 1).

Other feedback

No additional feedback was provided in the final open ended question, except for one positive comment: "I also appreciate the receptionist! They're all very nice and calm. I'm very satisfied with them." (Loddon 1).

Report produced November 2024.