All appendices are unedited and published as supplied by the author.

Appendix 1: Glossary and definitions

a) The use of the term 'Indigenous' in this manuscript includes all Aboriginal and Torres Strait Islander people and acknowledges their rich traditions and heterogenous cultures.

b) The MedsCheck and Diabetes MedsCheck Program provide for in-pharmacy medicine use reviews for consumers taking multiple medications and/or have newly diagnosed or poorly controlled Type 2 diabetes. These reviews are aimed at enhancing the quality use of medicines and reducing the number of adverse drug events experienced by consumers. A Home Medicines Review (HMR) is designed to enhance the quality use of medicines, and reduce the number of adverse medicine events, by assisting consumers to better manage and understand their medicines through a more in-depth medication review conducted by an accredited pharmacist in the consumer's home. General practitioners refer people for HMRs and receive written reports from the accredited pharmacist (www.6cpa.com.au/medication-management-programs).

c) The study was informed by the principles of reciprocity, respect, equality, responsibility, survival and protection, underpinned by working with spirit and integrity. An Expert Panel provided cultural and research governance.

d) Approval for Medicare Benefits Schedule (MBS) and Pharmaceutical Benefit Schedule (PBS) data was provided by the Services Australia External Request Evaluation Committee (EREC) of Australian Government (Ref: M19435; 20.04.18).

e) Seasonal adjustment allowed the 6-month follow-up period to be matched with the corresponding 6-month period pre-follow-up (eg. a consumer participating in the intervention between July-Dec 2018, had follow-up data compared to a pre-study period from July-Dec 2017). The study protocol had specified that in the first two study sites, follow-up duration for the primary and secondary outcome measures would be for 12-months, rather than 6-months. However, due to slow rates of recrutiment in both sites, the protocol was amended to a uniform 6-months of follow-up at all nine sites.

f) Approval for hospital admission/emergency department use data was provided by relevant jurisdictional authorities including NT Department of Health, Queensland Health and NSW Ministry of Health. Data linkages were conducted by the Centre for Health Record Linkage (CHeReL Ref:2019.31)

Appendix 2: Distribution of Aboriginal Health Services and community pharmacies

AHS setting	Number of CPs	AHS Site code	Implementation date
Queensland			
Urban			
Site 1*	5	U2	18/06/2018
Site 2	5	U3	30/07/2018
Regional/Rural			
Site 3	2	R4	22/10/2018
Remote			
Site 4	1	RE7	15/10/2018
New South Wales			
Urban			
Site 5	4	U1	24/09/2018
Regional/Rural			
Site 6	2	R5	10/09/2018
Remote			
Site 7	2	RE6	05/11/2018
Site 8	1	RE9	10/09/2018
Northern Territory			
Remote			
Site 9*	1	RE8	28/05/2018

*One start-up site from Queensland and one from Northern Territory;
AHS=Aboriginal Health Service; CP=community pharmacy.

Appendix 3: Ethics approvals for the *IMeRSe* Study

- Griffith University HREC (2018/251);
- Queensland Health Metro South HREC (18/QPAH/109);
- Aboriginal Health and Medical Research Council of New South Wales (1381/18);
- Far North Queensland HREC (18/QCH/86-1256);
- Central Australian HREC (CA-18-3090);
- Australian Government Services Australia External Request Evaluation Committee (MI9435); and
- New South Wales Population and Health Services Research Ethics Committee (2019/ETH11831).

Appendix 4: Clinical indicator validation using a modified Delphi technique

A summary of the published method used to develop the clinical indicators for this study is provided below [1].

The Delphi technique was adapted to refine an existing set of clinical indicators for use in the Australian healthcare setting [2] to ensure i) utility, as an appropriate primary outcome measure in the *IMeRSe* study; and ii) currency and applicability, in light of changes to clinical guidelines and best practice. The Delphi technique has been used to achieve consensus when expert opinion is the main source of evidence, including the selection of healthcare quality indicators [3]. The Expert Panel guided the identification of panellists with current clinical experience in an Indigenous health setting, or clinical indicator/medication safety expertise. Panellists were paid an honorarium.

A total of 13 panellists, five women and eight men from five clinical areas, comprised the CVG and participated in a Delphi process between May and November 2018. They had a mean of 17 years experience in their respective clinical areas and 11 years experience working with Indigenous people in their current role. Panellists were drawn from six of the nine states and territories across Australia and from urban, rural and remote locations (detailed information is withheld to maintain the anonymity of panellists).

Panellists consented to participate after reviewing written information and an interview with a researcher to clarify the process. Researchers first circulated the existing indicator list [2] and asked panellists to suggest additional indicators that, from their own clinical experience, represented the greatest obstacle to Indigenous health and wellbeing. Panellists were guided by Helper & Strand's (1990) criteria for preventable drug-related morbidity: the drug-related problem must be recognisable, and the likelihood of an undesirable clinical outcome must be foreseeable; causes of that outcome must be identifiable; and the causes must be controllable. Additional indicators considered relevant were added to the original list of 45 indicators to form a Master List. Three rounds of rating and consensus were undertaken using this list as a starting point.

The first two rating rounds were sent to all panellists in an online format via an email link hosted by LimeSurvey [4]. Panellists were asked to carefully consider each indicator presented and then choose from four options: i) accept indicator unchanged; ii) reject indicator; iii) specify alternative; or iv) not sure. Panellists were also asked to provide comments or a rationale for rejecting an indicator or providing an alternative. In accordance with previously explained modified Delphi methods [5] the indicator was accepted unchanged if at least 70% of panellists chose the option 'Accept indicator unchanged' or rejected if at least 70% of panellists chose the option 'Reject indicator'.

The indicators which were accepted unchanged or rejected were removed and not re-presented in subsequent rating rounds. All other indicators (where an alternative was proposed) were collated alongside the panellists' comments or rationales. The researchers then considered the comments, consulted any relevant clinical literature and offered alternative wording for any disputed

indicators. Panellists' comments were (anonymously) reported verbatim in the subsequent rating round, alongside the researchers proposed new wording of the indicator and links to any relevant clinical literature or guidelines. Researchers set a deadline of two weeks for responses after the online feedback portal was opened. Panellists could login to provide comments and previous responses could be altered at any time prior to final submission. Reminder emails were sent one week before the deadline and requests for additional time were granted as required. All 13 panellists completed the first two rounds.

The third rating round involved a face-to-face meeting with an invited sub-group (n=3) of the larger consensus group; a representative from each main speciality area (specialist doctor, general practice doctor, clinical pharmacist) provided expert commentary regarding any remaining discrepancies. Consensus in this final round was achieved following open group discussion which was moderated by the researchers.

In addition to the original 45 indicators [2], panellists identified 56 new indicators; the Master List of indicators at the end of Round 1 rating thus comprised 101 indicators. During each rating round, panellists made suggestions to split or merge indicators, and hence, the number of indicators for consideration could increase or decrease between rounds. The final list comprised 81 indicators.

Operationalisation of clinical indicators for the primary clinical outcome (serious MRPs) and secondary clinical outcome (PPMRHs)

The clinical indicator was used to develop counts of the number of serious MRPs and PPMRHs in the pre and post-intervention periods.

Each clinical indicator was comprised of: (i) a hospital admission, described by a set of possible ICD-10-AM codes [6]; (ii) use or non-use of an indicated medication or group of medications, described by a set of PBS codes; and (iii) use or non-use of a recommended pathology test or health service, described by a set of MBS codes.

It is useful to think of the indicator as being composed of two parts: the preventive/primary care criteria, which necessarily occurs prior to a preventable hospitalisation (at a time point specified by the clinical indicator set) and the subsequent admission criteria.

For example, Indicator 1:

(i) hospital admission criteria (ii) preventive/primary care criteria

Hospitalisation	Medications (Boolean condition)	Pathology test/service (Boolean condition)
Haemorrhagic event	- Warfarin (present in the 90 days prior to admission) - Interacting antibiotic (present in the 10 days prior to admission)	INR test (absent in the 5 days prior to admission)

Boolean logic was applied – if warfarin and an interacting antibiotic were dispensed concurrently, i.e., within a specified time period of each other (an assumption of a 90-day rolling window of time is assumed because it is the dispensed quantity of warfarin) and no record of an INR test is found within 5 days following the dispensing of the interacting medication, this record is given a count of '1'. The MRP was classified as having occurred in the pre- or post-intervention period, depending on the date of supply of warfarin.

All strengths and brands of eligible medicines were included to operationalise this indicator as a serious MRP i.e. all brands and strengths of warfarin. In the example presented above for Indicator 1 the PBS code 2211J for warfarin sodium 5mg tablets (Coumadin brand) would meet the medication component of the preventive/primary care criteria in the coding; and an MBS code 65120 for 'prothrombin time (including INR where appropriate)' would meet the pathology test/service component of the preventive primary care criteria.

The unit for analysis in this case was 'person-medication-PBS date of supply' (for warfarin). The combination of the two concurrent medications (and the lack of an INR test) could only be counted once. However, the same combination at a later point in time (if no INR test was found) was also allowed to contribute an additional count of '1' to the primary outcome. As such, a participant could have multiple serious MRPs of the same type at different time points, thus contributing to the primary outcome count.

To operationalise Indicator 1 as a PPMRH, a hospital admission with a primary or other diagnosis of 'Haemorrhagic event' was first identified. For this example, an ICD10-AM code of K250 'Gastric ulcer, acute with haemorrhage' was one of a sub-set of ICD10-AM codes meeting the hospital admission criteria for Indicator 1. Applying Boolean logic, if a dispense date for warfarin within 90 days of the admission was found alongside a dispense date for an interacting medication within 10 days of the admission, the record was given a count of '1'. Details on assumptions made in calculating PPMRHs are available from the authors.

A single admission could meet the criteria for one or more PPMRHs, e.g., it could meet the criteria for both Indicator 1 and Indicator 2. This could occur when the indicators were related (as in the case of Indicator 1 and 2), or when both the primary diagnosis and secondary diagnoses for the admission were considered. However, if this occurred, the admission was only counted once towards the secondary outcome.

When considering admission diagnoses, primary and other diagnoses were included in the analysis. Transfers and statistical separations (episode changes) were excluded from the analysis. Emergency Department (ED) visits were limited to 'Service event completed, discharged', 'died', or 'transferred to a short-stay unit'. Only a primary diagnosis was available for ED visits.

The identification of the ICD10-AM codes, PBS codes and MBS codes used to operationalise the clinical indicator was undertaken by the research team with reference to previous literature [2]. Additionally, input for selection of the ICD10-AM codes was sought from a GP researcher, with

current clinical practice in Indigenous Health. PBS codes were revised with an accredited clinical pharmacist with extensive medication review expertise.

When the indicator specified an additional criterion relating to medical history, such as 'History of or prior hospitalisation for GI ulcers or GI bleed', the research team checked the Health Summary, supplied for the *Medicines Talk* appointment. If the information was unknown, the admission was removed from the serious MRP or PPMRH count.

Sensitivity testing was undertaken as there were a number of expected data limitations that could affect results. Firstly, eligible remote AHSs can supply most PBS subsidised medicines for the treatment of patients of the AHS through an arrangement with a pharmacy via the S100 Remote Area Aboriginal Health Services program [7]. As claims for patient medicines via these arrangements are not made via PBS Online such supplies are not captured in PBS administrative records (resulting in missing PBS dispensing data). Additionally, 'episode coning' (an arrangement that places an upper limit on the number of services in an episode for which Medicare benefits are payable), is a known limitation of MBS data [8]. Generally, when more than three items were requested in an episode by a general practitioner for an out-of-hospital service, Medicare only pays for the three most expensive items. This may mean that some pathology results of interest were not captured in the data. The possibility of this affecting the result was tested by identifying days on which at least three pathology services were recorded and using this to test the possible counterfactual where the test could have been undertaken, but not recorded. Lastly, as the clinical indicators were developed after the application to access Medicare data was approved, some indicators required more time in the pre-intervention period than was available (i.e more than 6-months). This was only expected to affect MBS records. Each indicator sub-analysis included a sensitivity analysis for the possibility that a result could differ due to left-truncation of MBS data (when the MBS service of interest could have occurred before the period of observation started, but within the time-period specific by the clinical indicator). This was also considered in the overall results.

Appendix 5: Measurement of adherence using the Medication Possession Ratio (MPR) and Proportion of Days Covered (PDC)

The difference in medication adherence due to the *IMeRSe* intervention was assessed by comparing medication adherence between the pre and post-intervention periods. Periods were compared using both participant self-report data (from the Reported Adherence to Medication scale [RAM][9]) and using objective data (calculating the Medication Posession Ratio [MPR][10] and the Proportion of Days Covered [PDC][10] from PBS administrative data). The MPR is usually defined as the ratio of the total days of supply for a medication to the number of days in the observation period i.e 6-months[11]. A ratio of one, therefore, indicates complete adherence. The PDC is a measure closely related to the MPR. It is usually defined as the number of days for which the consumer has medication available such that each day is categorised as having medication available or not. The main difference between the two measures is that the MPR is allowed to be greater than 1 if a consumer fills a prescription earlier than it is expected that they will need it, potentially overestimating adherence if consumers regularly fill prescriptions early. The PDC, however, is constrained to values equal to or less than 1. Both the MPR and PDC assume that the supply of a medication is an indication that medication is taken as prescribed. However, it is acknowledged that supply is only a proxy measure of adherence.

Six major groups of medication were included in our analysis: (i) cardiovascular medications; (ii) antithrombotic agents (excluding heparin sodium and adrenaline); medications used in diabetes; (iv) antipsychotics; (v) antidepressantl; and (vi) medications used for obstructive airways disease. 'As required' medicines were excluded.

Medications were grouped together using their generic name, without regard to strength. For example, 'enalapril' could include 5mg, 10mg or 20mg tablets. This allowed for a participant to switch strengths of the same medicine and have each dispensing included in the adherence measurement. However, combination products were grouped separately eg. 'enalapril + lercanidipine' was treated as a separate medication to 'enalapril'.

To account for differing numbers of days supplied for each different medication, assumptions were made by the research team with reference to the World Health Organisation Defined Daily Dose [12] and the PBS pack size. Details on assumptions are available from the authors.

The pre/post intervention period used for each participant was consistent with the period used for calculation of the primary outcome (that is, 6-months post the *Medicines Talk* date, matched with a corresponding period of 6-months prior, seasonally adjusted). If less than 6-months was observed following the *Medicines Talk*, a corresponding amount of time was matched for the pre-period.

The dispense date of the first medication of a particular type was the 'index' medication and represented the start of the recording period for each participant included in the analysis. Thus, the total period for each medication for each participant was allowed to differ. The

'end-date' of the recording period was set to 181 days and data for participants with less than this amount of follow-up time were excluded from the analysis (to manage potential over-estimation of adherence when a participant had less than expected supply in the 6-months and under-estimation of adherence when participants changed medication within the 6-months).

The mean adherence across all person-medication combinations was compared between pre and post-intervention periods. Typically, a participant was considered 'adherent' to a medication when the MPR or PDC were dichotimised at a level of 0.8 [13-15]. An additional analysis was undertaken to test if the proportion of person-medication scores reaching 80% adherence (ie a level of 0.8) was different between the pre and post-intervention periods. The difference in median values were tested (using a Wilcoxon sign rank test). Only paired results were included; when a participant had a score for a particular medication in the pre and post-intervention periods.

Matched data were available for 207/255 (81.2%) participants who completed a *Medicines Talk.* However, a further ten individuals did not use the medications specified for the adherence analysis and 39 participants were excluded to limit over-estimation of adherence because they fell within the category of having insufficient follow-up time to provide robust results (less than 181 days of follow-up). Subsequently, 158 participants were included in the adherence analysis.

Sensitivity testing was undertaken, to test any effect from S100 dispensing [7], which is a known limitation of PBS data records.

Appendix 6: Comparison of baseline health conditions between the *IMeRSE* cohort and the general Indigenous population

To compare the representativeness of the number and type of health conditions of the *IMeRSe* participant cohort with the general Indigenous population in Australia, summary data from the National Aboriginal and Torres Strait Islander Social Survey 2014-15 (Table 15) was used [16], alongside *IMeRSe* cohort data. The comparative cohort is Indigenous people aged ≥15 years with ≥1 (self-reported) chronic health condition; this was chosen as it most closely represented the *IMeRSe* study eligibility criteria (18 years and over with at least one chronic condition).

A comparison was undertaken to identify potential sample selection biases arising from the eligibility criteria for *IMeRSe* participation, whereby less sick individuals with less complex health conditions could potentially be enrolled.

Table: Comparison of Health Conditions: IMeRSe vs National Aboriginal and Torres Strait Islander Social Survey 2014-15 (NATSISS)

Health condition	IMeRSe n	Crude %	ABS n	Crude %
Asthma	65	22.3	85,261	19.2
Bronchitis or emphysema	6	2.1	20,497	4.6
Arthritis or osteoporosis	86	29.6	45,382	10.2
Cancer	26	8.9	14,354	3.2
Diabetes	188	64.6	56,768	12.8
Heart disease[(a)]	226	77.7	69,639	15.7
Stroke	11	3.8	5,804	1.3
Kidney disease	68	23.4	13,603	3.1
Back pain or back problems	22	7.6	99,231	22.4
Problems with eyes or eyesight	40	13.7	85,527	19.3
Problems with ears or hearing	10	3.4	44,071	9.9
Mental health condition[(b)]	90	30.9	124,983	28.2
Harmful use of, or dependence on, drugs or alcohol	19	6.5	21,426	4.8
Total persons	**291**	**100.0**	**443,419**	**100.0**

(a) Heart disease includes angina, high blood pressure and heart attack
(b) Mental illness includes depression or feeling depressed, anxiety or feeling anxious or nervous and behavioural or emotional problems.
Notes
1. NATSISS long-term health conditions data is intended to complement the National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) and National Health Survey (NHS). Prevalence estimates of long-term health conditions should be sourced from the NATSIHS and NHS.
2. Cells in this table (NATSIHS data) have been randomly adjusted to avoid the release of confidential data. Discrepancies may occur between sums of the component items and totals.
3. Components may not add to total as respondents may appear in more than one category.
***Sources AIHW data:** AIHW and ABS analysis of National Aboriginal and Torres Strait Islander Social Survey 2014–15.*

The *IMeRSe* participant cohort had a similar or higher proportion of people identified with all major chronic health conditions, with the exception of bronchitis or emphysema, back pain, problems with eyes or eyesight, or problems with ears or hearing. Notably, heart disease (77.7% *IMeRSe* cohort), diabetes (64.6% IMeRSe cohort), kidney disease (23.4% *IMeRSe* cohort) and stroke (3.8% *IMeRSe* cohort) are more highly represented in the *IMeRSe* cohort compared to the general Indigenous population. As management of these four conditions is reliant on long-term medication regimens, over-representation of these conditions in the *IMeRSE* study cohort was considered inevitable and appropriate.

Appendix 7: Classification of pharmacist identified medication-related problems and recommendations for management

Table i: Classification of medication-related problems using D.O.C.U.M.E.N.T*

	Potential Severity					
Classification (D.O.C.U.M.E.N.T)	**Nil**	**Low**	**Mild**	**Moderate**	**High**	**Total n (%)**
Drug selection	8	11	7	57	0	83 (10.9)
Over or underdose	0	9	7	32	2	50 (6.6)
Compliance	10	82	23	43	0	158 (20.7)
Undertreated	3	29	42	115	0	189 (24.8)
Monitoring	12	18	21	42	0	93 (12.2)
Education or information	2	66	13	13	0	94 (12.3)
Not classifiable	5	22	9	27	0	63 (8.3)
Toxicity or adverse reaction	2	4	3	22	1	32 (4.2)
Total, n (%)	42 (5.5)	241 (31.6)	125 (16.4)	351 (46.1)	3 (0.4)	762 (100)

D.O.C.U.M.E.N.T classification and severity framework was developed and validated in Australia [17].
** Independent assessor severity rating used.*

Table ii: Descriptions and rates of pharmacists recommendations (n=762)

	Recommendations/actions	n	%
Change in pharmacotherapy n=338, 44.4%	Consider review or medication or dose	111	14.6
	Add new or additional medication	57	7.5
	Multiple recommendations	30	3.9
	Medication dose change	29	3.8
	Medication change	24	3.2
	Medication formulation change	21	2.8
	Dose frequency or schedule change	19	2.5
	Cease medication	18	2.4
	Recommend non-prescription medication*	16	2.1
	Recommend vaccination	8	1.1
	Medication brand change	4	0.5
	Other therapy change	1	0.1
Monitoring n=183, 24.0%	Laboratory test (e.g HbA1C)	108	14.2
	Non-laboratory follow-up (e.g BP)	68	8.9
	Both types of recommendation	7	0.9
Referral to other services n=173, 22.7%	Other services (e.g allied health)	93	12.2
	Prescriber (GP)	69	9.1
	Referral to multiple services	6	0.8
	Hospital	3	0.4
	Pharmacy-led services (e.g. weight loss)	2	0.3
Information provision n=170, 22.3%	Education on medications or adherence	102	13.4
	Devices to enhance medication use (e.g. spacer)	31	4.1
	Information related to multiple categories	13	1.7
	Recommendation to commence DAA	12	1.6
	Self-management plan (e.g. asthma action plan)	11	1.4
	Written information or resources	1	0.1
Lifestyle recommendation n=157, 20.6%	Diet or weight management	32	4.2
	Multiple recommendations	32	4.2
	Smoking cessation	24	3.2
	Exercise	22	2.9
	Diabetes management	13	1.7
	Mental health related (e.g .stress reduction)	13	1.7
	Sleep related	12	1.6
	Other lifestyle recommendations	9	1.2

NB. Total is greater than n=762 as some recommendations included more than one aspect of care; HbA1C=glycated haemoglobin test for diabetes; BP=blood pressure; DAA=Dose administration aid.
**Non-prescription medication included complementary and alternative medicines, and Bush medicine.*

Appendix 8: Sensitivity analyses and other secondary outcomes

i. Sensitivity analyses for serious MRPs and PPMRHs

The sensitivity of the incidence rate-ratio for serious MRPs result (Box 4) was tested by restricting the analysis to urban and rural participants because remote participants may have incomplete PBS records due to Section 100 medication supply. This program allows eligible PBS medicines to be supplied free to people attending eligible remote AHSs. Consequently, data for 122 participants was included in the sensitivity analysis. The number of serious MRPs in pre-*IMeRSe* period was 766 and 725 in the post-*IMeRSe* period. For this sensitivity analysis the modelled rate of serious MRPs per person per year at risk reduced from 4.75 (95% CI 3.44-6.54) in the pre-period to 4.49 (95% CI 3.25-6.19) in the post-period; representing a 5% reduction (incidence rate-ratio=0.95; 95% CI 0.86-1.05), which was not statistically significant (p=0.29).

The sensitivity of the incidence rate-ratio for PPMRHs (Box 4) was tested by restricting the analysis to urban and rural participants, as described above (due to potential Section 100 medication supply); data for 122 participants were included in the sensitivity analysis. The number of PPMRHs in the pre-*IMeRSe* period was 13 and 10 in the post-*IMeRSe* period. The modelled rate of PPMRHs per person per 6-months at risk in the sensitivity analysis reduced from 0.08 (95% CI 0.03-0.21) to 0.06 (95% CI 0.02-0.17) in the post period. The incidence rate-ratio was 0.77 (95% CI 0.33-1.75) which was not statistically significant (p=0.53).

ii. Objective assessment of adherence using Medication Possession Ratio and Proportion of Days Covered

Table i.a. (All data) shows that median adherence using the MPR was 0.83 in the pre-intervention period, indicating that although adherence was relatively good overall, there was variation around this estimate. In the post-intervention period the MPR increased to 0.92; a statistically significant difference (p=0.03, Wilcoxon sign rank test). A similar result was found using PDC as the measure of adherence. The sensitivity of this result was tested by removing all participant data from remote sites as PBS records may not provide a complete record of dispensing (Table i b. Remote data removed). An increase in the pre-period median MPR from 0.83 to 0.92 in the post-intervention period was also statistically significant (p<0.01, Wilcoxon sign rank test). A similar result was also shown for the PDC.

Table i: Objective assessment of medication adherence rates (MPR and PDC)

	n[#]	Pre-score median (IQR)	Post-score median (IQR)	*p*-value*
a. All data				
MPR (continuous)	599	0.83 (0.59-0.99)	0.92 (0.62-1.02)	0.03*
PDC (continuous)	599	0.82 (0.56-0.99)	0.89 (0.57-0.99)	0.01*
b. Remote data removed				
MPR (continuous)	368	0.83 (0.50-0.99)	0.92 (0.57-1.05)	<0.01*
PDC (continuous)	368	0.83 (0.50-0.98)	0.91 (0.55-0.99)	<0.01*

IQR = Interquartile range; MPR = Medication Possession Ratio; PDC = Proportion of Days Covered.
[#]number of paired comparisons for a particular medicine and individual, if the medicine was taken in the pre and post-periods; p<0.05 indicates statistically significant change using Wilcoxon sign-rank test.
NB. Higher median scores indicate higher (score of 1.0 indicates perfect adherence). MPR scores can be greater than 1.0 if more medication has been supplied than required; this is not possible with PDC.

iii. Correlations between treatment satisfaction, beliefs about medicines, and adherence results

We found positive correlations between the TSQM effectiveness, convenience and global satisfaction scores and BMQ (necessity and concern) and RAM scores, which supported a positive relationship between the level of satisfaction with medication, beliefs about medicine and medication adherence.

Table ii: Correlations between TSQM, BMQ and RAM results

	TSQM-effectiveness	TSQM-convenience	TSQM-global satisfaction	BMQ-necessity	BMQ-concern	RAM
TSQM-effectiveness	1.00					
TSQM-convenience	0.60**	1.00				
TSQM-global satisfaction	0.73**	0.72**	1.00			
BMQ-necessity	0.23**	0.15**	0.23**	1.00		
BMQ-concern	-0.31**	-0.28**	-0.30**	-0.01	1.00	
RAM	0.38**	0.44**	0.41**	0.15*	-0.35**	1.00

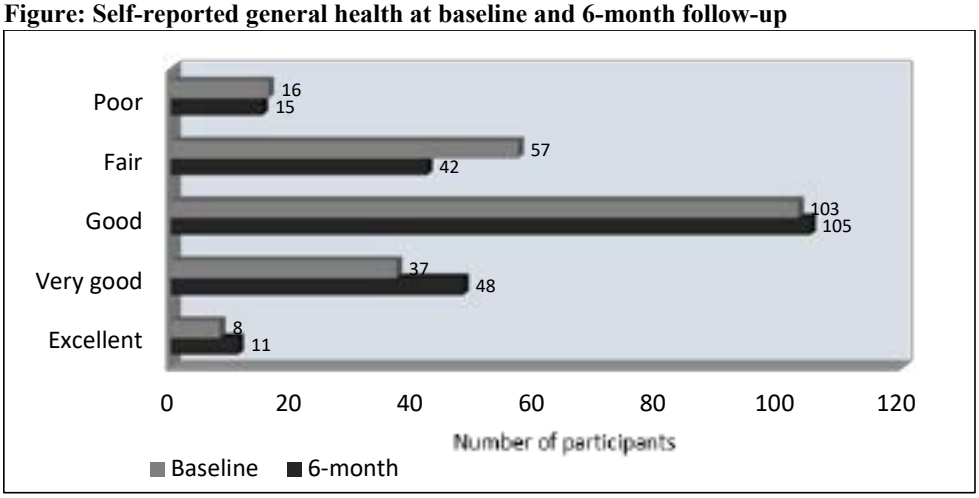
*TSQM=Treatment Satisfaction Questionnaire for Medication; BMQ=Beliefs about Medicines Questionnaire; RAM=Reported Adherence to Medicine; * p<0.05, ** p<0.001.*
NB. TSQM-side effects not included due to low number of responses.

iv. Self-reported general health

This is a measure often used in population health surveys, including the Aboriginal and Torres Strait Islander health surveys [18] .At baseline and 6-month follow-up participants were asked: "*In general, would you say your health is*….?" (1=excellent to 5=poor). Lower scores indicate better general health.

The Figure shows that participants rated their general health better after the *IMeRSe* intervention. There were 221 paired data for the comparison between baseline and follow-up score; 79/221 (35.7%) reported an improved health state, 52/221 (23.5%) reported a worse health state and 90/221 (40.7%) reported the same health state (p=0.019, Wilcoxon signed-rank test).

Figure: Self-reported general health at baseline and 6-month follow-up



v. Access to medicines

At baseline and 6-month follow-up participants were asked a series of questions about issues regarding access to their medicines. The paired analysis showed a shift in how participants usually obtained their prescription medicines (Table iii). At the 6-month follow-up significantly more participants reported collecting prescription medications in person from their pharmacist compared to baseline (p=0.007). Decreases were also reported for: someone else collecting medicines for participants (p=0.07); obtaining prescription medicines from their health service (p=0.02); and fewer reported problems with getting prescription medicines at the 6-month follow-up (p=0.008).

Table iii: Access to prescription medication

	n[#]	Pre n	Post n	OR (95% CI)	*p*-value*
How do you usually get your prescription medications?					
From my local pharmacy in person	183	154	167	4.25 (1.39, 17.36)	0.007
From my local pharmacy, but someone usually gets them for me	137	58	46	0.52 (0.24, 1.06)	0.07
Home delivery from my local pharmacy	133	29	28	0.89 (0.30, 2.60)	1.00
From my local clinic	153	55	44	0.27 (0.06, 0.84)	0.02
Problems with getting prescription medications when you needed	217	43	14	0.42 (0.21, 0.81)	0.008

OR=odds ratio; CI=confidence interval;
[#]number of participants with completed paired baseline and follow-up surveys;
**p<0.05 indicates statistically significant change.*

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