

# The M-CHooSe pilot: the acceptability and utilisation of the nurse-led, general practice clinic co-located 'Mater CALD Healthcare Coordinator Service' for patients from multicultural backgrounds

David Chua<sup>A,B,C,\*</sup> , Donata Sackey<sup>D</sup>, Meryl Jones<sup>D</sup>, Michelle Smith<sup>D</sup>, Lauren Ball<sup>A,B</sup>  and Tracey Johnson<sup>C</sup>

For full list of author affiliations and declarations see end of paper

## \*Correspondence to:

David Chua  
Centre for Community Health and Wellbeing, University of Queensland, Springfield, Qld 4300, Australia  
Email: [d.chua@uq.edu.au](mailto:d.chua@uq.edu.au)

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## ABSTRACT

**Background.** Patients from culturally and linguistically diverse (CALD) backgrounds often have unmet healthcare coordination needs. We aimed to evaluate the acceptability, utilisation and perceived benefits of the Mater CALD Health Coordinator Service (M-CHooSe), a pilot, nurse-led, general practice co-located, healthcare coordination service for patients from CALD backgrounds. **Methods.** M-CHooSe began in March 2020 at five Brisbane (Queensland) sites. Process and service user data were collected over 12 months at one site. A survey evaluated primary healthcare professionals' perceived benefits of the service. Another survey of M-CHooSe nurses examined indicators of service complexity. **Results.** In total, 206 individuals accessed M-CHooSe over the 12-month period. Commonly delivered services included health service advocacy, chart reviews and health system navigation, including addressing social determinants. M-CHooSe nurses reported frequently performing tasks such as following up with external health services and performing health and social care system coordination. M-CHooSe benefits reported by primary healthcare professionals included better patient access to external health services and improved patient understanding of their conditions and treatments. **Conclusion.** Patients were accepting of referrals to M-CHooSe. Primary healthcare professionals also reported a variety of benefits to themselves and their patients because of M-CHooSe. M-CHooSe highlights the potential of a healthcare coordination service for multicultural patients to improve healthcare equity, accessibility, and system efficiency. This project demonstrates the potential value of coordination services to increase patient access and uptake of existing health and social care services for modern Australian communities, thus improving the efficiency and effectiveness of our health system. Further investigations, including user experience, opinions and cost analyses, will be required to confirm the promising benefits of embedding M-CHooSe into usual care.

**Keyword:** care coordination, cultural and linguistic diversity, health service delivery, multicultural health, patient navigation, practice nurse, primary care, refugee health.

## Introduction

Australia is multiculturally diverse. Almost 3 in 10 Australians were born overseas, and almost one in four speak a language other than English at home (ABS 2022). Australians with culturally and linguistically diverse (CALD) and refugee backgrounds are more likely to experience socio-economic marginalisation and have additional adverse social determinants of health, including conflicting sociocultural values, experience of racism and discrimination, languages spoken, education level, mental and physical trauma and inability to find appropriate work and income (Dixon-Woods et al. 2006; Henderson and Kendall 2011; Khatri and Assefa 2022). This social adversity negatively influences the awareness, ability and willingness to access care (Javanparast et al. 2020; Khatri and Assefa 2022). For example, some people from CALD backgrounds have reported that,

until they were informed of the appropriate services for their health needs, they would not have known of the service's existence; or health providers not understanding the cultural significance of traditional healing methods; or providers not placing enough importance on the use of professional interpreters; or past experiences of racism and discrimination in our health system dampening desire to seek further help (Henderson and Kendall 2011; Khatri and Assefa 2022).

These factors contribute significantly to poorer overall health indicators among people with CALD and refugee backgrounds compared to the native-born population (Biddle et al. 2007; Anikeeva et al. 2010; Corscadden et al. 2018; Khatri and Assefa 2022). Hence, people with CALD and refugee backgrounds may have unmet care needs complicated by sociocultural factors such as language, genetic predisposition, traditional beliefs and past trauma, compared with people who might be natively born (Rao et al. 2006; AIHW 2022). Addressing complex health needs often requires care coordination and longitudinal delivery of care that includes addressing challenges stemming from the adverse social determinants of health (McDonald et al. 2007; Joshi et al. 2013; Khatri and Assefa 2022). Without care coordination, patients may experience compromised safety due to unavailability of important social and clinical information, medication errors and poorer health outcomes (Øvretveit 2011; Solberg 2011).

Care coordinators could add capacity to the health system to provide additional psychosocial support and address the complex care needs of this population by ensuring each person's needs are considered, that the person is aware of which services exist for their needs, and ensuring that all providers involved in that person's care communicate effectively with the person and their broader care team (McBrien et al. 2018). Care coordinators support people in navigating the health system and provide patients with a single point of contact as they, the patients, execute their healthcare plans. The intensity required for the coordinator's role is based on the individual's care needs, self-management capacity and complexity of their contexts (Agency for Clinical Innovation 2022). Care coordination extends beyond caring for physical ailments, but also the psychological, social and behavioural factors, which contribute to their wellbeing and impact self-management ability or access to services (Agency for Clinical Innovation 2022). Care coordinators may be referred to by different terms: patient navigators, community health workers, outreach workers, *promotoras*, health advocates, medical assistants, peer counsellors and health educators (Shommu et al. 2016). Although nurses commonly fill this role, other professionals in the healthcare field or even lay people can be trained to provide care coordination (MSHHS 2017; McBrien et al. 2018).

Mater Integrated Refugee Health Service (MIRHS) and Inala Primary Care (IPC) co-designed the Mater CALD Health Coordinator Service (M-CHooSe). MIRHS is a nurse-led unit

operated by the Mater Hospital, which is headquartered in South Brisbane, Queensland. The nurses of MIRHS do not practice at the hospital, rather, they are co-located at community-based general practice clinics and, prior to M-CHooSe, performed refugee health assessments for newly arrived humanitarian migrants. IPC is a not-for-profit general practice clinic in Inala, Brisbane, and is in a region with a high proportion of people from migrant and humanitarian migrant backgrounds, as well as a region that experiences socioeconomic marginalisation (PHIDU 2022). The purpose of M-CHooSe was to improve care coordination for people with CALD backgrounds and advocate for culturally safe, inclusive, more appropriate access to health and social services. The aim of this study was to explore if nurse-led care coordination services for people with CALD backgrounds are acceptable, utilised and had benefits for primary healthcare professionals (PHPs) and people who accessed the service. This knowledge can inform future initiatives in other regions to enhance health and social care access for multicultural communities.

## Methods

### M-CHooSe: context and service description

M-CHooSe followed the *Co-location Model*; it was physically co-located at participating general practice clinics (Sackey et al. 2020). Co-locating provides patients with a convenient, familiar setting and allows services to draw upon each other's expertise and resources (Sackey et al. 2020). Under this model, MHIRS and clinics have a *Working Together Agreement* (WTA); M-CHooSe nurses operate under the clinical governance of the general practice clinic, are allowed to view and edit patient charts and are provided workspaces. MHIRS nurses are employed by Mater and comply with Mater standards. Thus, M-CHooSe nurses act as a general practice clinic team member. M-CHooSe was funded by the Queensland Government (Queensland Health) under an existing service contract to serve the needs of people from humanitarian backgrounds. M-CHooSe had low intake barriers; written referrals or bookings were not required, and patients only had to self-identify as having a CALD background to be eligible. The service was free-of-charge.

M-CHooSe was co-located at five general practice clinics in suburbs of Inala at IPC, Moorooka, Annerley and Chermiside. Each had existing co-location WTAs and were already sites for the MIRHS refugee health service. M-CHooSe was led by registered nurses; all had cultural sensitivity experience and practiced with the MIRHS for at least 5 years and had general nursing experience across a variety of fields including primary care, emergency, intensive care and paediatrics for over 10 years each. Five nurses shared a single full-time equivalent role across all five M-CHooSe sites. Each site had a 'regular' nurse who worked at that site only. There was no

prescribed scope of services; instead, nurses were enabled to practice to the full scope of their training and were guided by the patients' needs.

PHPs in Inala and suburbs prioritised by M-CHooSe already face challenges with ensuring adequate care coordination, especially for those with CALD backgrounds due to their areas' demographics and proportion of people with CALD backgrounds (PHIDU 2022). M-CHooSe aimed to meet this need.

## Evaluation design

Mater Research Ethics Committee granted an exemption (FINEXT/MML/74757). It met criteria as a service evaluation under the *NHMRC National Statement* (NHMRC 2018). The StaRI Statement guided our reporting (Pinnock *et al.* 2017). Informed consent was sought from study participants prior to participating.

We evaluated M-CHooSe using a three-part, mixed-methods approach:

1. Describe care coordination needs of M-CHooSe users (qualitative chart audit).
2. Understand complexity of delivering these services for M-CHooSe nurses (qualitative and quantitative service audit).
3. Identify PHPs' perceived benefits of M-CHooSe (qualitative and quantitative online survey).

Data collection began from the first service occasion and continued for 12 months. Complexities of negotiating patient privacy concerns, such as the need to fund professional interpreters with funding we were not allocated, sensitivities around trust of researchers and authorities, especially with recently settled humanitarian migrants, and the time required to recruit participants when the pilot was required to begin in earnest as a response to health and social needs at the beginning of the coronavirus disease 2019 (COVID-19) pandemic, meant we collected process and service user data at one Inala site only (audit site). Chart audits were used to identify the number of service users, their basic demographic characteristics (e.g. gender, ethnicity, refugee background), the occasions of service, consultation type (e.g. phone, drop-in) and interpreter need. For both PHP and nurse surveys, we collected data across all sites.

### Part 1: Describing how care coordination needs were addressed

To indirectly ascertain care coordination needs of M-CHooSe users, we assembled a stakeholder group of MIRHS managers (DS, MJ), a refugee health nurse (MS), a general practice clinic manager (TJ), a primary care researcher (DC) and two social service managers. The group developed a list of potential service themes (Table 1) describing the most common services that might be encountered by M-CHooSe

based on their experiences with care delivery to people with CALD backgrounds.

For each occasion of service, M-CHooSe nurses recorded a deidentified patient ID number and assigned the appropriate service themes from Table 1 to characterise work done. If the encounter did not match an existing theme, the nurse recorded a description of the service provided. An 'occasion of service' is when a M-CHooSe nurse created a new chart entry or made changes to one.

A month from when data collection began, a researcher (DC) performed a chart audit and compared the visit notes to the nurse-assigned service themes to determine whether the definitions (Table 1) needed updating or new service themes were required. This process was repeated at 3 months. At 6 months, all previous consultations were analysed and service themes counted.

### Part 2: Determining service complexity from the M-CHooSe nurse perspective

At 12 months from the start of data collection, M-CHooSe nurses across all sites were invited to complete an online survey (*Forms*, Microsoft Corporation, Redmond, WA, USA); two questions, 10 items each. Participants were asked to rank the frequency of service provision and time spent providing services.

### Part 3: Perceived benefits of M-CHooSe from the PHP perspective

A structured online survey (*Forms*, Microsoft Corporation) was used to identify the perceived benefits of M-CHooSe. The survey also allowed for participants to make free-text comments to relevant questions. The survey took place in March 2021, 1 year since M-CHooSe began, and was open for 1 month. PHPs invited were GPs and practice nurses (PNs) across all sites. Results were descriptively analysed. Where provided, any free-text comments were quoted verbatim if it provided richer context to our discussion.

## Survey development

The survey was developed using a modified Delphi method (Ding *et al.* 2022). We purposefully recruited a panel of relevant stakeholders based on their experience with working with CALD communities. A total of eight stakeholders formed the panel. Panellists were GPs, PNs, practice managers, MIRHS managers, refugee nurses, and social service managers.

### Survey design phases

Survey design involved three stages. In stage 1, stakeholders were asked to submit survey items using the following primer, 'Considering M-CHooSe, from your perspective, what are key survey questions you would ask PHPs that demonstrates its success, failures, barriers and facilitators?'. All items were

**Table 1.** Service themes and their definitions.

Service theme	Description
Corresponding and/or follow up with external health services	Liaising with external health services to ensure the needs of the patient are met and the general practice knows outcomes of the external consultation. Follow up on the status of referrals.
Assist patient with attending outpatients/specialist/external healthcare appointments	Counsel patient about the reason and importance of their upcoming appointment. Ensure the patient has booking details and has means to get there. Remind patients of their appointments. Facilitate rapid redirection of acute cases to emergency if they present to the general practice.
Patient follow up	Perform welfare checks as required by the care team. Proactively introduce M-CHooSe to the patient. Gather additional patient information as requested by the care team.
Provided health/medication education and/or advice	Collate patient education materials and/or programs. Provide health and health systems literacy to the patient.
Liaise with case manager	Ensure patient's case manager is updated about their patient's healthcare needs and status as required.
Chart review	Familiarise with patient history prior to providing support as required. Update missing or incorrect information in the patient record.
Assist patient with booking healthcare appointments	Assist the patient to book or rebook healthcare appointments. Negotiate access to the service where needed; this is especially important where a patient has defaulted on previous appointments.
Social care assistance	Assist the patient to complete paperwork for welfare or housing. Discuss and assist with access to appropriate social services as needed. Communicate health and social needs to social services or the patient's education provider. Ensure welfare agencies are aware of the patient's linguistic needs.
General practice assistance	M-CHooSe nurse providing general practice with support. Includes providing multicultural support, guiding the patient during the general practice consultation, assisting the general practice to with taking observations or a patient history.
Provide COVID-19 education	Provide patient education and assist with COVID-19-related matters.
Chasing documentation/correspondence from external health services	Chase outstanding discharge summaries, investigation of results or medical records from external healthcare providers.
Coordinating with social care service	The audit site had a Primary Health Network-funded social service, Footprints. M-CHooSe would flag suitable patients, assist with referrals, coordinate care with the service and ensured the general practice and service were kept updated with patient status and needs.
Ensuring patient complies with pathology/radiology requests	Counsel the patient about the reason and importance of an upcoming test. Ensure the patient has their booking details and has means to get there. Remind patients of their appointments. Ensure provider knows of patient's cultural and language needs. Ensure testing centre will bulk-bill if needed or assist finding one that is willing to. Educate the patient on testing requirements (e.g. fasting), what to expect and importance of any follow-up tests.
Performed observations only	Performed patient observations.
Vaccinations	Perform patient vaccinations.
Assist patient with attending the general practice or community-based healthcare appointments	Same concept as 'Assist patient with attending outpatients/specialist/external healthcare appointments' but for the primary care context (e.g. allied health appointments).
Assist patient to organise transport to external healthcare appointments	Ensure the patient has knowledge of and adequate transport options to attend healthcare appointments. Organise transport where needed. Check if the patient arrived safely to the appointment.

assessed for suitability by a researcher (DC) using the following criteria (stage 2):

1. Item clearly demonstrates impacts or outcomes of M-CHooSe.
2. PHPs can answer adequately (e.g. GPs may be unable to respond to a health economics question).
3. Item is suitable for an online survey (e.g. lengthy, free-text responses are unsuitable).
4. Item is concise.

5. Item is unique (e.g. does not duplicate another item both literally or conceptually).

Items not meeting all the criteria were brought to the panel for consensus refinement or removal. Remaining items were grouped thematically by a researcher (DC) and assembled into a draft survey.

In stage 3, the draft survey was presented to the panel. Panellists were asked to indicate if they want to include or exclude the item, again based on the same criteria of stage 2,

or if they were unsure. Items where <50% of panellists marked it for inclusion were excluded from the final survey. Items with equal votes for inclusion and exclusion/unsure were discussed by the panel until consensus was reached.

## Results

### Characteristics of M-CHooSe users

Over 12 months, 260 individuals accessed M-CHooSe at the audit site; 53.5% of service users were female. Median service user age was 23 years (IQR 31.3). And 78.1% of service users identified as being from a refugee background and settled in Australia a median of 1.68 years (IQR 0.99) ago. Self-reported ethnicities of people who access M-CHooSe are shown in Table 2.

### Characteristics of M-CHooSe

At the audit site, M-CHooSe recorded 563 occasions of service over 12 months. Each occasion of service took a median of 12.75 min (IQR 73.4). Table 3 outlines M-CHooSe consultation delivery modalities.

### Meeting the care coordination needs of M-CHooSe users

Table 4 outlines services delivered by M-CHooSe. Frequently delivered services included corresponding or following up with external services (30.5%), assisting patients to attend their external healthcare appointments (27.3%), following up with patients, providing health or medicines education (15.5%), and liaising with case managers (15.0%).

### Service complexity

Table 5 reports the perceptions of M-CHooSe nurses ( $n = 4$ ) across all sites on how frequently they felt they delivered key service themes and how time-consuming each were to perform.

### PHPs' perspectives on the impacts of M-CHooSe

In total, 14 PHPs participated in the survey; 57.1% ( $n = 8$ ) were vocationally registered GPs, 28.6% ( $n = 4$ ) were registered PNs and 14.3% ( $n = 2$ ) were either enrolled (EN) or endorsed enrolled (EEN) PNs. And 78.6% ( $n = 11$ ) of PHPs reported they had referred more than one patient to M-CHooSe. PHPs who had not referred patients to M-CHooSe ( $n = 3$ ) reported they either were unaware of M-CHooSe ( $n = 1$ ) or had no appropriate patients ( $n = 1$ ) or did not provide a reason ( $n = 1$ ). Overall, 91% ( $n = 10$ ) of PHPs reported their referred patients were *very receptive* of being referred; remaining PHPs said their referred patients were *somewhat receptive*. Table 6 reports key PHP survey

**Table 2.** Self-reported ethnicities of unique individuals who accessed M-CHooSe at the audit site over a 12-month period.

Self-reported ethnicity of individuals who accessed M-CHooSe	Proportion of total individuals who accessed M-CHooSe (%)
Eritrean	22.3
Congolese	20.4
Ethiopian	12.7
Somali	9.6
Burundian	4.6
Oromo	4.2
Australian	3.1
Vietnamese	3.1
Afghan	2.7
Tigrayan	2.7
Swahili	1.9
Rwandan	1.2
Salvadoran	0.8
Burmese	0.8
Sudanese	0.8
Rohingya	0.4
Cuban	0.4
Tajik	0.4
Chilean	0.4
Liberian	0.4
Kenyan	0.4
Indian	0.4
Ugandan	0.4
Saudi Arabian	0.4
Tanzanian	0.4
Iraqi	0.4
Papua New Guinean	0.4
Unknown/Not provided	4.6

**Table 3.** M-CHooSe consultation delivery modalities.

	Proportion of all occasions of service (%)
Phone consultations	49.0
Services delivered with an interpreter	32.5
Drop-in consultations	11.4
Services delivered without the patient being present (i.e. between M-CHooSe and other services/professionals)	10.3

responses. PHPs referred patients to M-CHooSe for various reasons, including patient complexity, their referrals or request were inadequately addressed by external services, and the patient being disengaged.



**Table 4.** Services delivered by M-CHooSe.

Main themes	Occurrences as a proportion of all occasions of service (%)
<b>Corresponding and/or follow up with external health services</b> e.g. Contacting hospital liaison officers to check if referrals were received and the status of them. Ensuring these are actioned in a timely manner.	30.5
<b>Assist patient with attending outpatients/specialist/external healthcare appointments</b> e.g. Ensure patient is personally reminded of their appointment and is given easy-to-understand directions on how to get to the appointment and who to speak to upon arrival.	27.3
<b>Patient follow up</b> e.g. Welfare checks. Following up after appointments to see how they are. If care teams are concerned about the patient, M-CHooSe can contact the patient on their behalf.	19.8
<b>Provide health/medication education and/or advice</b> e.g. Tailored health or medicines education.	15.5
<b>Liaise with case manager</b> e.g. Liaison service with patient's National Disability Insurance Scheme case manager, for example. Channel of direct communication between PHPs and the case manager as needed.	15.0
<b>Chart review</b> e.g. Ensure chart is up-to-date and social and medical histories are as accurate as they can be.	14.4
<b>Assist patient with booking healthcare appointments</b> e.g. Act as the patient's and PHP's broker to ensure appointments happen at a mutually convenient and appropriate time of day (i.e. not during Friday prayers for people with Muslim faith). Renegotiate re-entry to services especially when patient has failed to attend repeatedly in the past.	12.3
<b>Social care assistance</b> e.g. Assist patient with welfare forms or social housing applications.	12.3
<b>General practice assistance</b> e.g. Providing a medical certificate or sitting in general practice consultations and providing in-person cultural sensitivity advice and expertise.	10.7
<b>Provide COVID-19 education</b> e.g. Provide culturally and linguistically appropriate and tailored COVID-19 health advice to patients and their friends and families by the most practical means.	4.8
<b>Chasing documentation/correspondence from external health services</b> e.g. Ensuring that correspondence from specialists are available to the patient's general practice in time for their next appointment.	4.8
<b>Coordinating with social care services</b> e.g. Coordinating care and services with external aged care, community, housing, disability and community mental health services. Ensuring these services are provided with all the information required to gain quick access for the patient and also to ensure open communication between them and the patient's PHP. Ensuring PHPs also know about referral pathways and criteria.	4.8
<b>Ensuring patient complies with pathology/radiology requests</b> e.g. Explain to the patient about fasting needs of certain tests and when the best time to book might be. Follow patients up prior to their appointments to ensure they are able to get to the collection/testing centre.	4.3
<b>Performed observations only</b> e.g. Where requested by the GP, the M-CHooSe nurse can perform basic observations required while the GP gets an interpreter on the phone.	3.2
<b>Vaccinations</b> e.g. Perform vaccinations.	1.6
<b>Assist patient with attending general practice or community-based healthcare appointments</b> e.g. Specifically for general practice or allied health appointments, ensure patient is personally reminded about the appointment and is given easy-to-understand directions on how to get to the appointment and who to speak to upon arrival. This might also include providing information to the patient about what to expect, especially for allied health appointments and how to access an interpreter or the need to bring a person they trust to interpret for them where there is no funded access for one.	1.6
<b>Assist the patient to organise transport to external healthcare appointments</b> e.g. Organise bus, taxi or other form of appropriate transportation for the patient to attend their healthcare appointments.	0.5
<b>Unknown<sup>A</sup></b>	1.1

<sup>A</sup>Could not be analysed; there were no data recorded aside from basic patient demographic characteristics in consultation notes.

**Table 5.** M-CHooSe nurse perception of how frequent service themes (1 = most frequent) were delivered and how much time (1 = most time-consuming) each service seemed to take to deliver.

Service theme	Rank of perceived frequency of service theme	Rank of perceived time took to deliver service theme
Corresponding and/or follow up with external health services and/or case managers	1	1
Chart review (including ensuring documentation is received from external services)	2	3
Assist the patient with attending outpatients/specialist/external healthcare appointments	3	4
Social care assistance (including liaising with social care services)	4	2
Patient follow up	5	6
Provided health/medication education and/or advice (including COVID-19 education)	6	5
Assist patient with booking healthcare appointments	7	7
Assist patient with attending general practice or community-based healthcare appointments (including helping patients comply with pathology/radiology requests)	8	9
General practice assistance	9	10
Assist the patient to organise transport to external health appointments	10	8

Broadly, PHPs expressed that M-CHooSe helped them better meet the needs of their patients with CALD backgrounds. Benefits of referring included that M-CHooSe advocated for the patient, provided education and assisted patients with addressing some of their social determinants, including making healthcare appointment bookings, assisting with transportation, paperwork/forms and case managing care. PHPs benefited from M-CHooSe because it was perceived by them to improve patient compliance with management, reduced patient no-show, increased patient throughput and reduced non-medical problems being encountered during consultations. PHPs also perceived a positive improvement in consulting time utilisation, and consultations with referred patients were perceived to be shorter post-referral. Regarding this change, some respondents commented:

A lot of the time [previously] was spent more on administrative issues rather than medical care. (GP)

Patients social needs and concerns are being managed appropriately, therefore less time is needed by me to sort these when other matters are needing to be discussed. (PN, EN/EEN)

PHPs described that their patients benefited from using M-CHooSe; it was perceived to improve outcomes, biopsychosocial wellbeing, understanding of their medical conditions and management plans. PHPs also felt that M-CHooSe improved patient attendance at healthcare appointments and completion rates of requested investigations.

## Discussion

This study examined whether a care coordination service, M-CHooSe, provides a potentially rapidly implementable

approach to navigate around some of the barriers and inequities faced by patients from CALD backgrounds, a priority population. Brokering for better access to services, helping patients navigate the health and welfare systems and coordinating care could reduce the impacts of inequities on patients with CALD backgrounds. M-CHooSe demonstrated this was achievable. M-CHooSe nurses were able to address some common health access challenges identified by [Khatri and Assefa \(2022\)](#). M-CHooSe nurses ensured PHPs had the required clinical information by proactively performing chart reviews and corresponding with external services. The nurses ensured patients were informed about the importance of attending follow-up appointments and assisted patients with addressing the social determinants that prevented care access; for example, negotiating bookings around English-language classes or welfare appointments and arranging transportation. M-CHooSe nurses also addressed the social aspects of health care by coordinating with social care services, liaising with settlement support services and case managers. This highlights that M-CHooSe has the potential to achieve better care coordination across the care continuum, a hallmark for a successful care coordination service ([Agency for Clinical Innovation 2022](#)). M-CHooSe nurses identified barriers for patients by taking the necessary time to building trust and rapport, listened to patient needs and to took the time to talk to family members when more information was required. They then could advocate for the most appropriate, culturally safe care pathways and brokered access to them. Service brokers are central to ensuring families with CALD backgrounds have appropriate service access across the often complex, disjointed multitude of service providers they need ([Isaacs et al. 2013](#)). Brokers also ensure care teams communicate effectively and stay connected and also increase cultural competency capacity across the whole system ([Isaacs et al. 2013](#)).

PHPs are faced with barriers in providing the intended healthcare quality to people with CALD backgrounds.

**Table 6.** PHP perception of M-CHooSe and its impacts.

<b>(A) PHP perceptions around referral of patients to M-CHooSe (n = 11)</b>	
Common trigger for PHP referral to M-CHooSe	
Patient had complex social determinants that PHP was not well-equipped to address	72.7%
PHP needed help with CALD aspects of care	63.6%
PHP needed assistance with care planning due to complexity	45.5%
PHPs' referrals/request not being addressed by external services	36.4%
Patient disengaged with regular care	27.3%
<b>(B) Benefits to PHPs of utilising M-CHooSe (n = 11)</b>	
Overall benefits of referring to M-CHooSe from PHPs' perspective	
Advocates for the patient	91.0%
Provides patient education	91.0%
Helps patient make bookings with external providers; patient more likely to attend	63.6%
Assists patients with their paperwork/forms	63.6%
Case manage patients ensuring referrals to appropriate services	54.5%
Provides patients with appropriate and up-to-date resources	45.5%
Assist with finding appropriate guidelines/clinical resources for patient care	45.5%
Explores social determinants of health and provides insights into capacity to self-manage	36.4%
Arranges transport to external consultations; patients more likely to attend	27.3%
PHP benefits from M-CHooSe utilisation	
Provides PHP with up-to-date services available for patients	63.6%
Increases patient compliance with management	54.5%
By taking social, health education and counselling roles, PHP can focus on medical issues	54.5%
Reduction in encountering non-medical problems (e.g. welfare, transport, housing)	54.5%
Able to see more patients per day	27.3%
Reduction in no-show rates to PHPs' consultations	27.3%
Influence of M-CHooSe on time utilisation in consultations	
Extremely beneficial	91.0%
Beneficial	9.0%
Impact on PHP consultation lengths post-referral <sup>A</sup>	
Shorter consultations	91.0%
No change	9.0%
Improvement in self-reported ability to meet needs of patients with CALD background	
Very much helps PHP meet needs of patients with CALD background	81.8%
The service helps PHP meet needs of patients with CALD background	18.2%
<b>(C) Patient benefits and behaviour changes from PHPs' perspective (n = 11)</b>	
Improvement in patient outcomes	
Much better patient outcomes	63.6%
Somewhat better patient outcomes	9.0%
No opinion on patient outcomes	18.2%
Impact on patients' biopsychosocial wellbeing	
Much better	63.6%
Somewhat better	36.4%
Improvement in patient understanding of their medical condition(s)	
Greatly improved	54.5%

(Continued on next page)



**Table 6.** (Continued).

Somewhat improved	45.5%
Improvement in patient understanding of their management plans	
Greatly improved	63.6%
Somewhat improved	18.2%
Likelihood M-CHooSe improves patients' attendance at subsequent external healthcare appointments	
Likely	91.0%
Neither likely nor unlikely	9.0%
Likelihood M-CHooSe improves patients' completion of requested investigations (n = 7)	
Likely	85.7%
Neither likely nor unlikely	14.3%

<sup>A</sup>Respondents were able to leave a comment along with their response for this item.

The most immediate barrier is often language (Suphanchaimat *et al.* 2015); however other challenges faced by PHPs include patient difficulty with health system engagement, lower capacity or prevalence of self-management, social problems and isolation, and an uncoordinated and difficult-to-navigate healthcare system (Komaric *et al.* 2012; Farley *et al.* 2014; Suphanchaimat *et al.* 2015; Alzaye *et al.* 2019). These challenges increase the cognitive load and time required to provide quality care within the general practice consultation, and in certain contexts, threatens the ability of PHPs to deliver adequate levels of care, thus undermining future outcomes (Farley *et al.* 2014; Suphanchaimat *et al.* 2015). The PHPs in our study reported that M-CHooSe nurses were able to address many of these challenges. For example, PHPs reported that patients utilising the M-CHooSe had a better understanding of their condition and management plans, had improved attendance to subsequent medical appointments and compliance with requested investigations. This was because M-CHooSe nurses had the time, capacity and experience to advocate for the patient to ensure health and social care appointments were booked appropriately and patients could navigate there, and also provide both PHPs and patients with culturally and language-appropriate health education resources. PHPs observed that M-CHooSe nurses were also enabled to assist with social aspects of care such as assisting with completing complex paperwork the patient might have (i.e. welfare, housing or medical). By offloading the non-medical activities, PHPs can then regain the time and cognitive capacity to focus on the patient's medical needs, yet be confident that the patient is receiving additional support they need to attain the best outcome possible. Most importantly, PHPs reported that patients were receptive of referral to M-CHooSe, indicating broad acceptability of the service.

M-CHooSe nurses reported that the most frequent services they performed were also time-consuming to complete. Many of the service themes were delivered without the patient being present or remunerated according to the Medicare

Benefits Schedule; for example, assisting with social services paperwork, assisting with patient transport arrangements, or chasing up paperwork from hospitals, and advocating for inclusive care such as booking interpreters (Brown *et al.* 2021). These activities are consistent with delivering quality care; it ensures continuity of care, whole-person care, and addresses social determinants of health (Valaitis *et al.* 2017; Thomas *et al.* 2018). However, the lack of remuneration, time and support required to complete these tasks currently discourages PHPs and leads to under-serving this population, and where tasks are attempted, risks decreasing PHP satisfaction and leads to frustration and burnout (Suphanchaimat *et al.* 2015; Brown *et al.* 2021). As M-CHooSe funding is not fee-for-service (non-contingent), nurses can be responsive to patient needs in ways time-based and activity-based care are not (Phillips *et al.* 2007). Resultantly, the M-CHooSe could improve patient accessibility to care and enhance primary care quality and improve culturally inclusive practice.

Nurse-led multicultural care coordination services are suitable for people with complex needs, including asylum seekers and people with multimorbidity (McBride *et al.* 2016; Davis *et al.* 2020). Nurses already receive cultural competency training, and previous studies have demonstrated that people from some CALD backgrounds trust nurse advice (Kay *et al.* 2016; Parajuli *et al.* 2020). Nurses are skilled at identifying and addressing multimorbidity and social determinants holistically, as well as providing culturally sensitive health literacy education (Khatri and Assefa 2022). Care coordination and case management is often reported to be performed by nurses. We know it improves communication and coordination between service providers, improves preventative health activity, eases the primary care-hospital transition, improves team work and alerting of other team members of patient issues (Joshi *et al.* 2013). Furthermore, when governance structures are in place to enable nurses to work across primary and secondary care sectors such as in M-CHooSe, the nurses are enabled to better coordinate care

at the intersection of these sectors to get better outcomes and accessibility for their patients (Davis et al. 2020). These result in better health outcomes, and we would expect similar outcomes from our work (Joshi et al. 2013). Although an economic evaluation was outside the scope of this study, M-CHooSe was staffed at approximately one full-time equivalent nurse, with the role spread across five sites.

Our pragmatic evaluation of a new service provides some initial insights into whether a nurse-led multicultural care coordination model is acceptable and feasible for PHPs and their patients with CALD backgrounds. Due to our resource and time constraints, we were limited in the number of sites we could collect patient activity data from. The service was staffed by only a few nurses, limiting our sampling pool for the survey on service complexity from their perspective. The number of GPs who referred into the service was also low; however, their reported experiences with M-CHooSe and their perspectives on patient outcomes were relatively consistent. However, we have demonstrated that such a service has utility and would be a positive addition to general practice clinics in CALD communities. Our findings serve as reason to look at a larger implementation trial that must investigate broader feasibility and applicability, cost-effectiveness, patient perspectives and impacts on health outcomes.

### Implication for policy and practice

The M-CHooSe pilot demonstrated that primary and secondary care sectors working collaboratively to leverage funding, knowledge and skills, under a collaborative governance model, led to improved health and social care access and outcomes for people with CALD backgrounds. The Medicare Benefits Schedule (MBS) Review Taskforce calls for the health system to be more responsive to the emerging barriers and gaps to appropriate care, and requires innovative policy solutions that are also outside the current fee-for-service model (Department of Health 2022). Results of the M-CHooSe pilot support the idea that a blended fee-for-service and 'block' funded model enables scope to deliver equitable and accessible care to underserved populations. We have also demonstrated that co-locating multicultural nursing support in a priority general practice setting, as opposed to outside of that setting, could be better for patient access and utilisation.

### Conclusion

M-CHooSe was acceptable and well-utilised. PHPs reported benefits for themselves and their patients. The nurse-led, non-contingent funded model was fit-for-purpose. M-CHooSe delivered services GPs would not typically be remunerated for, yet were tasks important for high-quality care and served to lower health system barriers and inequities. There could

be broader system benefits if this model were to be adopted widely, including improved cultural competency across the health system, improved interagency communication, better service utilisation, and efficiency and improved healthcare equity. Further investigations are required to investigate patient acceptability of such a service and utilisation more accurately, demonstrate cost-effectiveness and efficacy of embedding M-CHooSe into usual care.

### References

- ABS (2022) Cultural diversity: census. (Australian Government: Canberra). Available at <https://www.abs.gov.au/statistics/people/people-and-communities/cultural-diversity-census/2021>
- Agency for Clinical Innovation (2022) Care coordination. Available at <https://aci.health.nsw.gov.au/projects/consumer-enablement/how-to-support-enablement/care-coordination>
- AIHW (2022) Reporting on the health of culturally and linguistically diverse populations in Australia: an exploratory paper. (Australian Government: Canberra). Available at <https://www.aihw.gov.au/reports/cald-australians/reporting-health-cald-populations/summary>
- Alzay R, Chaar BB, Basheti IA, Saini B (2019) General Practitioners' experiences of asthma management in culturally and linguistically diverse populations. *Journal of Asthma* 56, 642–652. doi:10.1080/02770903.2018.1472280
- Anikeeva O, Bi P, Hiller JE, Ryan P, Roder D, Han G-S (2010) Review Paper: The health status of migrants in Australia: a review. *Asia Pacific Journal of Public Health* 22, 159–193. doi:10.1177/1010539509358193
- Biddle N, Kennedy S, McDonald JT (2007) Health assimilation patterns amongst Australian immigrants. *Economic Record* 83, 16–30. doi:10.1111/j.1475-4932.2007.00373.x
- Brown A, Enticott J, Russell G (2021) How do Australian general practitioners spend their time? A cross-sectional analysis of medicine in Australia: balancing employment and life (MABEL) data examining 'non-billable workload'. *Australian Journal of General Practice* 50, 661–666. doi:10.31128/AJGP-09-20-5631
- Corscadden L, Levesque JF, Lewis V, Strumpf E, Breton M, Russell G (2018) Factors associated with multiple barriers to access to primary care: an international analysis. *International Journal for Equity in Health* 17, 28. doi:10.1186/s12939-018-0740-1
- Davis KM, Eckert M, Hutchinson A, Harmon J, Sharplin G, Shakib S, Caughey G (2020) Continuity of care for people with multimorbidity: the development of a model for a nurse-led care coordination service. *Australian Journal of Advanced Nursing* 37, 7–19. doi:10.37464/2020.374.123
- Department of Health (2022) Future focused primary health care: Australia's primary health care 10 year plan 2022–2032. (Commonwealth of Australia: Canberra). Available at <https://www.health.gov.au/resources/publications/australias-primary-health-care-10-year-plan-2022-2032>
- Ding J, Cook A, Chua D, Licqurish S, Woolford M, Deckx L, Mitchell G, Johnson CE (2022) End-of-life care in general practice: clinic-based data collection. *BMJ Supportive & Palliative Care* 12, e155–e163. doi:10.1136/bmjspcare-2019-002006
- Dixon-Woods M, Cavers D, Agarwal S, Annandale E, Arthur A, Harvey J, Hsu R, Katbamna S, Olsen R, Smith L, Riley R, Sutton AJ (2006) Conducting a critical interpretive synthesis of the literature on access to healthcare by vulnerable groups. *BMC Medical Research Methodology* 6, 35. doi:10.1186/1471-2288-6-35
- Farley R, Askew D, Kay M (2014) Caring for refugees in general practice: perspectives from the coalface. *Australian Journal of Primary Health* 20, 85–91. doi:10.1071/PY12068
- Henderson S, Kendall E (2011) Culturally and linguistically diverse peoples' knowledge of accessibility and utilisation of health services: exploring the need for improvement in health service delivery. *Australian Journal of Primary Health* 17, 195–201. doi:10.1071/PY10065
- Isaacs S, Valaitis R, Newbold KB, Black M, Sargeant J (2013) Brokering for the primary healthcare needs of recent immigrant families in Atlantic,

- Canada. *Primary Health Care Research & Development* 14, 63–79. doi:10.1017/S1463423612000229
- Javanparast S, Naqvi SKA, Mwanri L (2020) Health service access and utilisation amongst culturally and linguistically diverse populations in regional South Australia: a qualitative study. *Rural and Remote Health* 20, 5694. doi:10.22605/RRH5694
- Joshi C, Russell G, Cheng I-H, Kay M, Pottie K, Alston M, Smith M, Chan B, Vasi S, Lo W, Wahidi SS, Harris MF (2013) A narrative synthesis of the impact of primary health care delivery models for refugees in resettlement countries on access, quality and coordination. *International Journal for Equity in Health* 12, 88. doi:10.1186/1475-9276-12-88
- Kay M, Wijayanayaka S, Cook H, Hollingworth S (2016) Understanding quality use of medicines in refugee communities in Australian primary care: a qualitative study. *British Journal of General Practice* 66, e397–e409. doi:10.3399/bjgp16X685249
- Khatri RB, Assefa Y (2022) Access to health services among culturally and linguistically diverse populations in the Australian universal health care system: issues and challenges. *BMC Public Health* 22, 880. doi:10.1186/s12889-022-13256-z
- Komarc N, Bedford S, van Driel ML (2012) Two sides of the coin: patient and provider perceptions of health care delivery to patients from culturally and linguistically diverse backgrounds. *BMC Health Services Research* 12, 322. doi:10.1186/1472-6963-12-322
- McBride J, Russo A, Block A (2016) The Refugee Health Nurse Liaison: a nurse led initiative to improve healthcare for asylum seekers and refugees. *Contemporary Nurse* 52, 710–721. doi:10.1080/10376178.2016.1238774
- McBrien KA, Ivers N, Barnieh L, Bailey JJ, Lorenzetti DL, Nicholas D, Tonelli M, Hemmelgarn B, Lewanczuk R, Edwards A, Braun T, Manns B (2018) Patient navigators for people with chronic disease: a systematic review. *PLoS ONE* 13, e0191980. doi:10.1371/journal.pone.0191980
- McDonald KM, Sundaram V, Bravata DM, Lewis R, Lin N, Kraft SA, McKinnon M, Paguntalan H, Owens DK (2007) Closing the quality gap: a critical analysis of quality improvement strategies. (Stanford University-UCSF Evidence-based Practice Center: Rockville, MD, US). Available at <https://www.ncbi.nlm.nih.gov/sites/books/NBK44015/>
- MSHHS (2017) Multicultural Nurse Navigator breaks down barriers to health. Available at <https://metrosouth.health.qld.gov.au/news/multicultural-nurse-navigator-breaks-down-barriers-to-health>
- NHMRC (2018) 'National statement on ethical conduct in human research.' (Australian Research Council and Universities Australia: Canberra)
- Øvretveit J (2011) Evidence: does clinical coordination improve quality and save money? A summary review of the evidence. (The Health Foundation: London)
- Parajuli J, Horey D, Avgoulas M-I (2020) Best practice models recommended by Bhutanese refugee women for cervical and breast cancer screening in Australia: a qualitative study. *Health Promotion Journal of Australia* 31, 381–390. doi:10.1002/hpja.315
- PHIDU (2022) Social health atlas. Available at <https://phidu.torrens.edu.au/current/maps/sha-aust/pha-single-map/qld/atlas.html>
- Phillips C, Dwan K, Pearce C, Hall S, Porritt J, Yates R, Sibbald B (2007) Time to talk, time to see: changing microeconomies of professional practice among nurses and doctors in Australian general practice. *Contemporary Nurse* 26, 136–144. doi:10.5172/conu.2007.26.1.136
- Pinnock H, Barwick M, Carpenter CR, Eldrith S, Grandes G, Griffiths CJ, Rycroft-Malone J, Meissner P, Murray E, Patel A, Sheikh A, Taylor SJC (2017) Standards for Reporting Implementation Studies (StaRI) Statement. *BMJ* 356, i6795. doi:10.1136/bmj.i6795
- Rao DV, Warburton J, Bartlett H (2006) Health and social needs of older Australians from culturally and linguistically diverse backgrounds: issues and implications. *Australasian Journal on Ageing* 25, 174–179. doi:10.1111/j.1741-6612.2006.00181.x
- Sackey D, Jones M, Farley R (2020) Reconceptualising specialisation: integrating refugee health in primary care. *Australian Journal of Primary Health* 26, 452–457. doi:10.1071/py20138
- Shommu NS, Ahmed S, Rumana N, Barron GRS, McBrien KA, Turin TC (2016) What is the scope of improving immigrant and ethnic minority healthcare using community navigators: a systematic scoping review. *International Journal for Equity in Health* 15, 6. doi:10.1186/s12939-016-0298-8
- Solberg LI (2011) Care coordination: what is it, what are its effects and can it be sustained? *Family Practice* 28, 469–470. doi:10.1093/fampra/cmr071
- Suphanchaimat R, Kantamaturapoj K, Putthasri W, Prakongsai P (2015) Challenges in the provision of healthcare services for migrants: a systematic review through providers' lens. *BMC Health Services Research* 15, 390. doi:10.1186/s12913-015-1065-z
- Thomas H, Mitchell G, Rich J, Best M (2018) Definition of whole person care in general practice in the English language literature: a systematic review. *BMJ Open* 8, e023758. doi:10.1136/bmjopen-2018-023758
- Valaitis RK, Carter N, Lam A, Nicholl J, Feather J, Cleghorn L (2017) Implementation and maintenance of patient navigation programs linking primary care with community-based health and social services: a scoping literature review. *BMC Health Services Research* 17, 116. doi:10.1186/s12913-017-2046-1

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#### Author affiliations

<sup>A</sup>Centre for Community Health and Wellbeing, University of Queensland, Springfield, Qld 4300, Australia.

<sup>B</sup>Menzies Health Institute Queensland, Griffith University, Nathan, Qld 4111, Australia.

<sup>C</sup>Inala Primary Care Ltd, Inala, Qld 4077, Australia.

<sup>D</sup>Mater Misericordiae Brisbane Ltd, Mater Refugee Health Service, South Brisbane, Qld 4101, Australia.