Extended abstract
Patterns of home care and its predictors among migrant older adults in Australia and France.

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Introduction
The ageing population is a global phenomenon. In Australia, one in six and France, one in four are over 65 years old. This has led to an increasing need to understand the care dynamics among older adults. This article investigates a cross-national comparison of the prevalence of incapacity in conducting daily activities, formal and informal care patterns, and the associations between this and its predictors among older adults in both countries. We focus on comparing the first generation of migrants with the non-migrant population. According to the latest Australian Census 2021, around 30% of the Australian population was born overseas, while the latest data 13% were born overseas in France. In comparison, according to the new Census, the proportion was relatively higher for the older population in Australia (41% for those aged 65+) and 13.5% for France (CARE 2015). In a period of increased migration flows, particularly in Europe, including France, discussing the patterns of care among migrants is relevant and timely. Moreover, Carlsson (2023) argued that evidence has shown that first-generation elderly migrants have experienced inequities in health and the use of care services. France might also differ from Australia, where the government formally focuses much on the importance of public welfare in family life through its *politique de la famille* (Litwin & Attias-Donful, 2009). Further, in terms of home care arrangement, France also provides home and care support assistance directly to older adults through *Aide Personnalisée au Logement* (APL) for housing costs, *Allocation Personnalisée d'Au*tonomie (APA) for those who need help with daily activities and *Services à la Personne* (Personal Services) for, cleaning, and assistance with daily tasks. For older adults in Australia, assistance has been provided through Home Care and Support Services (Home Care Packages and Commonwealth Home Support Programme (CHSP) and Carer Payment and Carer Allowance). However, the payments are made to service providers or carers. While Australia is not geographically located in Europe, its cultural, social and political structure is close to some European countries. Like France, Australia is also an OECD country. These above reasons provide a valid background for comparing the two countries. Thus, there are three research questions to be investigated in this paper: 1) Who cares for migrant older people? What are their patterns of care, informal, formal and mixed? 2) What factors are associated with those migrants with functional health limitations receiving various home care services? 3) What are the similarities and differences between France and Australia?

Conceptual framework and data sources
Data sources cover the 2018 Survey of Disability, Aging, and Carers (SDAC) for Australia and the 2015 CARE survey for France. Conceptually, we use Andersen's behavioural model (Andersen, 1995) to identify the predictors of formal, informal, and mixed home care. Using the comparable variables available in both data sources, for preliminary analysis, we aim to include the variables of interest as follows (we would include other explanatory variables for a more complete analysis later):
Predisposing factors include demographic factors such as **gender** (male, female); **age** (65-74,75-84,85+ for Australia and continuous age variable for France); **educational attainment** (UNESCO classification: Australia to match SDAC classification: i) year 9 or below, ii) year 10-12, iii) Advanced Diploma, Diploma & Certificates, iv) Bachelor's & postgraduate degree; France: i) no diploma, ii) primary diploma, iii) secondary diploma, iv) post-secondary diploma); **migration status** (Australia: Australian born, born in the main English-speaking countries (MESC) - Canada, the Republic of Ireland, New Zealand, South Africa, the United Kingdom, and the United States of America, or born in other countries; France: France born, EU born, non-EU born.
Enabling factors consist of several factors: family configuration, **marital/couple status** (married/defacto, single) and **whether you have children or not**; **housing tenure**: owner (for simplicity, we combined owner without the mortgage and with the mortgage), renter & other in Australia and owner or renter in France; **equivalised income** by equivalised unit of consumption (equivalised units are determined as follows: 1 for the first adult+0.5*numbers of the rest of adults +0.3*numbers of persons under 14 years old).
Need factors: functional limitations of **Activities of Daily Living** (ADL). Katz et al. (1963) proposed various elementary activities on which to measure activity restrictions: "washing," "cutting and feeding," "dressing," "lying down/standing up," and "going to the toilet." For this paper, ADL covers eating, showering/bathing, going to the toilet, dressing and getting in and out of bed.

Methodology
Multinomial logistics regressions are conducted to estimate the probability of receiving care and the source of care among individuals aged 65 and older. There are four possible categorical but unordered responses as the dependent variable: (i) formal care, (ii) informal care, (iii) mixed – the combination of formal and informal care, and (iv) no care (as base category). These four categories refer to the type of assistance received in at least one broad activity area (or elementary activity only). For this extended abstract, as a preliminary strategy, we would like to examine whether migration status explains the variation in receiving these different types of assistance. We run the regression focusing on those aged 65+ and those with ADL identified as 1. All the presented results are population weighted. Given the nature of the data, we tried our best to maintain comparability of the variables between the two countries, but sometimes, we could not.

Preliminary results – Expected findings
We could see that by migration status, migrants, particularly those born in other countries, are likely to have higher ADL prevalence than Australians born, and this difference is statistically significant (Table 1a).

Table 1a. Prevalence of ADL by migration status for individuals age 65+ (%), Australia

| ADL status | Australian-born | Overseas born | | | Total |
		Born in MESC	Born in other countries	Total overseas born	
0	89.23	90.44	86.22	87.93	88.78
1	10.77	9.56	13.78	12.07	11.22

The same pattern is also found in France, where the non-France-born population has a higher proportion of people with ADL than the France-born population (Table 1b).

Table 1b. Prevalence of ADL by migration status for individuals age 65+ (%), France

ADL	France-born	EU-born	Born abroad	Total
0	83.80	78.23	80.03	83.24
1	16.20	21.77	19.97	16.76

Table 2a shows the type of assistance received in at least one broad activity area. It shows variations in the type of assistance received by migration status. Overall, the migrant population tend to rely much on the informal type of care. For Australia, this pattern is driven by migrants born in other countries. In contrast, the proportion of older adults who have access to formal care is low, with only 3.5% of Australian-born have access to this type of care, followed by migrants who were born in the MESC.

Table 2a. Type of assistance received in at least one broad area of activity by migration status for individuals age 65+ when ADL=1 (%), Australia

| Pattern of care | Migration status (%) | | | | Total |
| | Australian-born | Overseas born | | | |
		Born in MESC	Born in other countries	Total overseas born	
None	42.38	38.07	29.84	32.49	38.65
Informal	16.16	13.43	30.88	25.25	19.59
Formal	3.53	3.33	2.02	2.44	3.12
Informal and formal	37.94	45.18	37.25	39.81	38.64

Note: The broad areas of activities include cognition or emotion, communication, health care, household chores, meal preparation, mobility, property maintenance, reading or writing, self-care, and transport.

Table 2b shows the stark difference in access to formal care for France, with 12.9% for the French-born population compared to 7.4% for those born abroad and 4.8% for the EU-born population. Tables 2ais and 2bis show the same pattern for one elementary activity: a higher proportion of native-born people accessing formal care than non-native people.

Table 2b. Type of assistance received in at least one broad area of activity by migration status for individuals age 65+ when IADL=1 (%), France

	EU-born	France-born	Born abroad
Formal	4.84	12.88	7.39
Informal	24.62	24.63	30.63
Formal and Informal	30.29	35.32	25.99
None	40.26	27.17	35.99

Table 2ais. Type of assistance received for at least one elementary activity by migration status for individuals age 65+ when ADL=1 (%), Australia

| Pattern of care | Migration status (%) | | | | Total |
| | Australian-born | Overseas born | | | |
		Born in MESC	Born in other countries	Total overseas born	
None	41.58	36.13	28.71	31.08	37.64
Informal	16.39	13.85	31.38	25.78	19.92
Formal	14.92	14.62	10.57	11.87	13.77
Informal and formal	27.12	35.40	29.33	31.27	28.68

Table 2bis. Type of assistance received in at least one elementary activity by migration status for individuals age 65+ when ADL=1 (%), France

	EU-born	France-born	Born abroad
Formal	5.09	10.54	8.99
Informal	24.48	21.23	32.74
Informal and formal	38.68	40.61	32.44
None	31.75	27.62	25.83

Note

With the background above, do we expect variation in factors influencing those with functional health limitations receiving various in-home care services? The preliminary results in Table 3a show that holding other factors constant, migration status is statistically significant in explaining the pattern of care among older adults in Australia, with migrants born in other countries having a higher probability of having informal and mixed care than the native-born Australian. In contrast, migrant older adults have a lower probability than Australian-born of accessing formal care. The preliminary results for France (Table 3b) show that the EU-born population is less likely to access formal care than the French-born population. We could also see from the results that having children increases the probability of accessing informal and mixed care in Australia and France. Further, other explanatory variables are also statistically significant and worth discussing in the more complete model.

Table 3a. Preliminary results of the multinomial regressions – Australia

Pattern of care	Independent variables	RRR/Odds ratios	Sig	[95% conf.interval]	
Informal	Migration status (base born in Australia)				
	• born in ME countries	0.33	***	0.30	0.35
	• born in other countries	3.73	***	3.39	4.11
	Education (base: year 9 or below)				
	• Year 10-12	0.26	***	0.24	0.28
	• Cert/Diploma/Advanced Diploma	0.90	**	0.82	0.99
	• Bachelor/Postgrad	0.15	***	0.13	0.17
	Female (base: male)	1.06	*	0.99	1.14
	Age (base: 65-74)				
	• 75-84	1.58	***	1.47	1.69
	• 85+	2.38	***	2.12	2.68
	Married or not	9.15	***	8.51	9.83
	Equivalised income	1.00	***	1.00	1.00
	Having children or not	1.55	***	1.42	1.69
	Housing tenure (base: homeowner)				
	• Rent	0.21	**	0.20	0.23
	• Other	0.56	**	0.51	0.61
Formal	Migration status (base born in Australia)				
	• born in ME countries	0.29	***	0.26	0.32
	• born in other countries	0.52	***	0.46	0.58
	Education (base: year 9 or below)				
	• Year 10-12	0.35	***	0.32	0.39
	• Cert/Diploma/Advanced Diploma	1.07		0.96	1.19
	• Bachelor/Postgrad	0.65	***	0.58	0.73
	Female (base: male)	1.26	***	1.16	1.37
	Age (base: 65-74)				
	• 75-84	4.39	***	4.02	4.79
	• 85+	15.18	***	13.32	17.30
	Married or not	1.13	***	1.04	1.23
	Equivalised income	1.00	***	1.00	1.00
	Having children or not	0.23	***	0.21	0.26
	Housing tenure (base: homeowner)				
	• Rent	0.79	***	0.73	0.85
	• Other	0.52	***	0.46	0.58
Informal & Formal	Migration status (base: born in Australia)				

• born in ME countries	0.46	***	0.43	0.50
• born in other countries	1.55	***	1.41	1.70
Education (base: year 9 or below)				
• Year 10-12	0.45	**	0.41	0.48
• Cert/Diploma/Advanced Diploma	1.06		0.96	1.16
• Bachelor/Postgrad	0.49	***	0.44	0.54
Female (base: male)	1.35	***	1.26	1.45
Ageing (base: 65-74)				
• 75-84	3.49	***	3.26	3.73
• 85+	13.91	***	12.41	15.58
Married or not	5.57	***	5.20	5.98
Equivalised income	1.00	***	1.00	1.00
Having children or not	1.11	**	1.01	1.20
Housing tenure (base: homeowner)				
• Rent	0.34	***	0.32	0.37
• Other	0.23	***	0.21	0.25

Note: *** significant at 1%; ** 5% and * at 10%. RRR (Relative Risk Ratios/Odds)

Table 3b. Preliminary results of the multinomial regressions – France

Effet	Aid (Pattern of Care)	Estimation du point (RRR/Odds ratios)	Intervalle de confiance de Wald à95%	
Migration status: NAIS EU-born vs France-born	formal	0.51*	0.25	1.05
NAIS EU-born vs France-born	informal	0.99	0.56	1.73
NAIS EU-born vs France-born	Informal & formal	0.87	0.51	1.49
NAIS NoneEU-born vs France-born	formal	0.69	0.39	1.20
NAIS NoneEU-born vs France-born	informal	0.90	0.56	1.43
NAIS NoneEU-born vs France-born	Informal & formal	0.70	0.44	1.10
Education attainment: Niveau2 1 primaire vs 0 pré-primaire	formal	0.65**	0.44	0.97
Niveau2 1 primaire vs 0 pré-primaire	informal	0.68**	0.48	0.96
Niveau2 1 primaire vs 0 pré-primaire	Informal & formal	0.62***	0.45	0.87
Niveau2 secondaire vs 0 pré-primaire	formal	1.09	0.71	1.66
Niveau2 secondaire vs 0 pré-primaire	informal	0.76	0.52	1.11
Niveau2 secondaire vs 0 pré-primaire	Informal & formal	0.73*	0.51	1.04
Niveau2 superieure vs 0 pré-primaire	formal	0.93	0.50	1.76
Niveau2 superieure vs 0 pré-primaire	informal	0.75	0.43	1.30
Niveau2 superieure vs 0 pré-primaire	Informal & formal	0.57**	0.33	0.97
Gender: sexe 2 vs 1	formal	1.96***	1.40	2.75
sexe 2 vs 1	informal	1.14	0.86	1.51
sexe 2 vs 1	Informal & formal	1.81***	1.39	2.37
Age: AGE	formal	1.05***	1.03	1.07
AGE	informal	1.04***	1.02	1.06
AGE	Informal & formal	1.11***	1.09	1.13
Equivalised income: EquaRevUnit	formal	1.00	1.00	1.00
EquaRevUnit	informal	1.00	1.00	1.00
EquaRevUnit	Informal & formal	1.00	1.00	1.00
Housing tenure: STOC1 Tenent vs Owner	formal	1.28	0.89	1.84
STOC1 Tenent vs Owner	informal	1.44**	1.04	1.99
STOC1 Tenent vs Owner	Informal & formal	1.38**	1.01	1.87
Couple (yes/no): Couple1 1 vs 0	formal	0.47*	0.33	0.66
Couple1 1 vs 0	informal	1.16	0.86	1.56
Couple1 1 vs 0	Informal & formal	0.60	0.46	0.80
Having children or not: FAENFC1 1 vs 0	formal	0.95	0.48	1.89
FAENFC1 1 vs 0	informal	4.45***	2.53	7.81
FAENFC1 1 vs 0	Informal & formal	1.89**	1.08	3.31

Note: *** significant at 1%; ** 5% and * at 10%. RRR (Relative Risk Ratios/Odds)

References:

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