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Dyall, L., Kepa, M., Hayman, K., Teh, R., Moyes, S., Broad, J. B., & Kerse, N. (2013). Engagement and recruitment of Māori and non-Māori people of advanced age to LiLACS NZ. *Australian and New Zealand Journal of Public Health*, 37(2), 124-131. doi: [10.1111/1753-6405.12029](https://doi.org/10.1111/1753-6405.12029)

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Engagement and recruitment of Māori and non-Māori people of advanced age to LiLACS NZ

Abstract

Objectives: Life and Living in Advanced Age: A Cohort Study in New Zealand (LiLACS NZ) aims to determine the predictors of successful advanced ageing and understand the trajectories of wellbeing in advanced age. This paper reports recruitment strategies used to enrol 600 Māori aged 80-90 years and 600 non-Māori aged 85 years living within a defined geographic boundary.

Methods: Electoral roll and primary health lists of older people were used as a base for identification and recruitment, supplemented by word of mouth, community awareness raising and publicity. A Kaupapa Māori method was used to recruit Māori with: dual Māori and non-Māori research leadership; the formation of a support group; local tribal organisations and health providers recruiting participants; and use of the Māori language in interviews. Non-Māori were recruited through local health and community networks. Six organisations used differing strategies to invite older people to participate in several ways: complete full or partial interviews; complete physical assessments; provide a blood sample and provide access to medical records.

Results: During 14 months in 2010-2011, 421 of 766 (56%) eligible Māori and 516 of 870 (59%) eligible non-Māori were enrolled. Participation and contribution of information varied across the recruitment sites.

Conclusion: Attention to appropriate recruitment techniques resulted in an acceptable engagement and recruitment for both Māori and non-Māori of advanced age in a longitudinal cohort study.

Implications: There is high potential for meaningful results useful for participants, their whānau and families, health agencies, planners and policy.

Key words: Cohort study, Māori, advanced age.

Aust NZ J Public Health. 2013; 37:124-31
doi: 10.1111/1753-6405.12029

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In Aotearoa (New Zealand), like many other countries – developed and underdeveloped – ageing populations will have an impact on public spending, workforce development, and health care services.^{1,2} The ‘oldest old’, those aged over 80 years, termed advanced age, are the fastest growing age group³ and greater effort is needed to promote older people’s quality of life and optimise service provision. Te Puāwaitanga o Nga Tapuwae Kia Ora Tonu – Life and Living in Advanced Age: A Cohort Study in New Zealand (LiLACS NZ) has completed enrolment into two inception cohorts – Māori aged 80-90 years and non-Māori aged 85 years – for a longitudinal study that aims to determine predictors of successful advanced ageing by examining a range of physical, psychological, health, social, cultural, and environmental factors. Trajectories of wellbeing in advanced age will be investigated.

Many older people contribute eagerly to research⁴ but, due to sensory and cognitive deficits, may be more difficult to engage with. High participation rates are possible but not guaranteed.⁵ Those who are hard to reach, poor and disabled are often not included in research, and are therefore less likely to benefit from the findings and subsequent policy and practice change. It is especially important to engage minority groups in health research that may lead to improved understandings of health disparities. For example, Ellison-Loschmann and Pearce noted that life expectancy has increased among the indigenous populations of New Zealand (NZ), Australia, Canada and the United States (US) over time, but has not yet matched that of the non-indigenous populations of these countries.⁶ However, recruiting in ethnically diverse populations is challenging, not only because some older

Submitted: August 2012

Revision requested: November 2012

Accepted: February 2013

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people may be less comfortable with the researcher's language, but because the method of approach used by the researchers may not recognise and respect the values and interests held by older people of differing ethnic and cultural backgrounds. LiLACS NZ focuses on Māori and non-Māori in advanced age.

Māori Mātauranga whakaaro philosophy

In the pre-contact era prior to the early 1700s, Māori lived healthy and happy lives as interconnecting groups of people with functioning cultural, social, political and economic relations that supported population survival and growth.⁷⁻¹⁰ The estimated average Māori life expectancy at birth at the time was approximately 28 to 30 years,¹¹ which was similar to that of Europeans. During this era, whānau (extended immediate family) and hapū (tribal groups) in Māori society managed health through a relationship with nature that: maintained a clean water supply; preserved and stored food; enabled suitable hygiene and waste disposal; kept the ill and dead separate; and used extensive mātauranga (local knowledge) to produce medicines and remedies.¹²

Māori philosophy ceased to flourish as the new settlers came to dominate NZ. Now, in the 21st century, Māori society continues to lose touch with the major traditions of Māori philosophical thinking, assimilating into Christian-based culture with varied success. Māori people are outnumbered in older ages by their non-Māori counterparts but the Māori population is ageing faster than the non-Māori population.¹³ Life expectancy at birth now lags by seven years for Māori and there is an excess of mobility-related disability for older Māori.¹³

Studies and national surveys include only small numbers of older Māori,¹⁴ leading to low statistical power and thus limiting understanding of their health in advanced age. Māori research methods are developing^{15,16} with engagement of Māori in health workforce processes under way,¹⁷ but there is variable success in involving Māori in research.^{18,19} For example, Māori academics have long requested appropriate engagement²⁰ and acknowledgement of indigenous people's knowledge^{21,22} with relevance and importance to research in NZ. More attention to appropriate research processes is required. Prior research objectives and outcomes have been questioned²³ with few examples of benefit when community engagement is successful.²⁴ Kaupapa Māori methods (Māori approaches to research) to involve older people as researchers and as participants, and to promote recruitment success similar to existing recent projects,¹⁹ should be advanced.

In planning this longitudinal study, we aimed to engage with Māori in more relevant and meaningful ways and to recruit sufficient numbers that would give equal explanatory power alongside non-Māori for this important sub-group of our population.

A wide-ranging community-based infrastructure has been developed to conduct the study.²⁵ This paper reports the recruitment strategies employed by LiLACS NZ with particular attention to Kaupapa Māori research methods and response rates achieved. The project was approved by the Northern X Regional Ethics Committee (NXT 09/09/088). Baseline (Wave 1) of LiLACS NZ

was jointly funded by the Health Research Council of New Zealand (feasibility study, \$615,000, main grant \$2.5 million) and Ngā Pae o te Māramatanga, New Zealand's Māori Centre of Research Excellence (CoRE) hosted by the University of Auckland (\$250,000 for Māori research fellow direction and support), and has Māori and non-Māori principal investigators and project managers.

Methods

LiLACS NZ was established using networks and assessment processes developed during a feasibility study,²⁵ where 112 older people, recruited through General Practice (GP) lists, community networks and word-of-mouth, undertook a comprehensive series of objective and subjective assessments. To increase representativeness in the main study, greater emphasis was put on inviting hard-to-reach people such as rest-home residents and more isolated, less community-connected people. Assessments included completion of a home-based, interviewer-led questionnaire using standardised tools and collecting data on socio-demographic and personal history, including: tribal affiliation for Māori and participation in cultural practices; physical and psychological health status; health behaviours including smoking, alcohol use and nutrition risk; environmental data including availability of local amenities, type of housing and neighbourhood; social network structures and social support exchanges; everyday interests and activities; views on ageing and financial interests. Measures of physical function: gait speed, leg strength and balance were completed. A briefer partial interview was available for participants unable to manage the full interview. A physical health assessment took anthropometric, blood pressure, hearing and vision, and heart and respiratory function measurements; and a blood sample was drawn. Consent to a medical record review from the GP, access to administrative health data from the District Health Board, and hospitalisations and mortality data from the New Zealand Health Information Service (NZHIS) was requested. Full details of the rationale and interview and assessment techniques are described elsewhere.²⁶

Local support and coordination

In line with Kaupapa Māori methodology,²³ engagement of Māori iwi and health provider groups to conduct the research, the formation of a Māori guidance group, joint leadership and Māori research staff were necessary for the Māori cohort recruitment. An understanding of Māori philosophy and Western scientific methods guided the research overall.

For the LiLACS NZ project, Māori philosophy meant that in the tradition of whanaungatanga (kinship relationships), a Rōpū Kaitiaki o Ngā Tikanga Māori (Protectors of the Principles of Conduct in Māori Research), subsequently termed Rōpū, with the purpose of overseeing all aspects of the study pertaining to Māori and drawn from diverse tribes across NZ, was established to ensure that Māori people, and Māori language and culture would be respected. The Rōpū actively informed the research team on all matters pertaining to Māori; specifically: customs to approach

potential Māori participants taking into account the history of the tribes and tribal relations; important families and leaders of mana, mystery and authority with whom to communicate; use of te reo Māori me ngā tikanga (Māori language and culture) construction of questionnaire items about Māori cultural practices;²⁵ wording and translation of all questionnaire items; and on-going interactions with participants and community groups. Importantly, the Rōpū brings extensive knowledge and wisdom of Māori society and spirituality to LiLACS NZ.

A series of hui (meetings) in the study areas with the Rōpū and senior tribal leaders (for Māori) and Primary Health Organisations (PHOs), for non-Māori, introduced the study and discussions informed the recruitment processes. Six local organisations, with links to community and health services in Tauranga, Whakatāne, Rotorua, Ōpotiki, and Te Kaha (termed subcontractors and defined below), were contracted to promote the study, invite all eligible potential participants and conduct assessments, following written informed consent.

To undertake this function subcontractors appointed coordinators, recruited and employed local lay interviewers for face-to-face structured interviews with participants and nurses to conduct physical assessments.

Tauranga

- Western Bay of Plenty Primary Health Organisation
- Ngā Matāpuna Oranga Kaupapa Māori Primary Health Organisation

Rotorua

- Rotorua Area Primary Health Services
- Te Rūnanga o Ngāti Pikiao and Korowai Aroha Health Services formed a joint contract

Whakatāne

- Te Rūnanga o Ngāti Awa

Ōpotiki

- Te Rūnanga o Ngāti Ira Puaia. Subcontract to Te Kaha area for local coordination and recruitment

Participant Eligibility Criteria

Eligibility criteria included: living within the defined NZ Central North Island regional boundaries of the Bay of Plenty and Lakes District Health Boards (excluding the Taupo region of the Lakes District Health Board); Māori with a birth date between 1 January 1920 and 31 December 1930 (aged 80-90 years in 2010); and non-Māori with a birth date between 1 January 1925 and 31 December 1925 (turning 85 years in 2010).

Complete population recruitment was attempted. A narrow age band was set for non-Māori to enable examination of factors not related to age. The broader age range for Māori was necessary for equal explanatory power considering the low population numbers within the study boundary.

Recruitment strategies

Promotion of the study included newspaper articles in local media, and pamphlets and posters for subcontractors to use in general practices, residential care facilities, and public places such as bowling clubs where older people gather. The name and branding of the study was visible in the areas of study and could be built upon further as the study progressed. The study was promoted at conferences locally, nationally and internationally, and through national media.

Multiple overlapping sampling strategies were used to attempt contact with all eligible people and their whānau and families. The NZ Māori Electoral Roll and the NZ General Electoral Roll were chosen as the primary source because registration on the electoral rolls is compulsory under law (although it is not compulsory to vote). In NZ, ascertainment of ethnicity is by self-identification. People who claim Māori descent are able to vote on either roll. Final ascertainment of ethnicity in this study was confirmed by self-identification at interview using the 2001 NZ census question.²⁷

In addition, general practice contacts, whanaungataunga, word of mouth, advertising, residential care networks and personal contacts were all used to compile, through on-going cross checking, a comprehensive list of eligible people. Relationships with PHOs and GPs formed the basis of recruitment strategies for non-Māori and Māori relationships formed the basis for Māori.

Each subcontractor developed their own approach to their communities. All approaches were intended to be made by someone known personally to the potential participant through kin or health contact connections, such as their GP, and explanations were given verbally by research staff wherever possible. A letter from the GP or health service was used in five sites (1, 2, 3, 4 and 6 – see Table 1). Direct mailing from the electoral roll list from the University of Auckland was used in site 2 for a small number of participants and as a secondary approach in site 1. Local networks and knowledge of whānau, hapu and iwi links and relationships with potential participants were used by all Māori subcontractors. Site 3 located and invited both Māori and non-Māori participants through local networks and the health centres in the area. To support recruitment, local radio was also used in sites 1 and 4, television interviews in sites 2 and 5, and local newspapers were used in all sites. In one site (Site 4) a public relations organisation was contracted to assist with promotion and awareness of the study.

Age-eligible older adults were actively followed up until contact had been made with everyone on the combined list of potential participants. Although ideal, this was unachievable if contact or communication could not be made. The three Rotorua subcontractors and the two Tauranga subcontractors worked together to ensure that potential participants were not contacted by more than one group. Participants were invited and given information sheets describing the study processes and the length of time involved and important points were highlighted and discussed face-to-face. Procedures for dealing with adverse events were discussed.

A training program hosted by the University of Auckland research team provided all staff with standardised training in eligibility

requirements and recruitment and data collection methods. Each interviewer was given a lilac-coloured jacket with the LiLACS NZ logo on it, and personnel identification to wear in the community when engaging with participants.

Information and informed consent

Recruitment of older people requires attention to increased time and clear communication with consideration of increased prevalence of sensory and cognitive impairment and respondent burden.^{28,29} The type on the information sheet was appropriately larger for older people. Sufficient time for discussion was allowed and potential participants were encouraged to invite family members to be present when research staff came to discuss the study. Where the potential participant had significant cognitive impairment the study was discussed with them and family members in detail, and the family of those with power of attorney status were asked to provide a statement of agreement to participate in the study (proxy consent). Attention was given to discussing the use of blood samples, as this is recognised to be of particular cultural importance for Māori.³⁰ A list of planned blood analyses was given to participants.

The consent process asked for separate permission for each stage of the project: interview, physical assessment, blood sampling, medical record review from the GP, access to administrative health data from the District Health Board, and hospitalisations and mortality data from the NZHIS. Specific separate consent was obtained for blood drawing and for storing any unanalysed blood for future studies following the guidance of the Rōpū and a LiLACS NZ steering committee. An undertaking to return, in an appropriate way, blood not used in analyses was given if the participant requested this.

A koha (gift of thanks) acknowledging the participant's time and commitment to the study was given at the conclusion of the assessments.

Research support

Recruitment and enrolment was conducted between March 2010 and April 2011. A key approach to maximising response rates was to assess the recruitment rate over time. Local subcontractors were open and willing to share the different strategies they had taken to find participants and to reflect which approaches were the most successful. A challenge was identified in the staggered nature of enrolment as the number of participants was potentially reduced due to mobility and death. Review meetings of site-based research staff and the university-based research team to debate recruitment and engagement strategies were held three times in the first year with good attendance and on-going support to research staff was provided by the university Project Managers during monthly site visits. The Rōpū travelled with the university-based research group to the training meetings, attended all review meetings, supported interviewers and nurses working in the field and gave feedback to the university research team.

Response rate analysis

Gender, age, ethnicity and residential area were recorded together with reason(s) for declining to participate, where provided. The

response rate is defined as the number of people in the eligibility pool who agreed to participate in any part of the study, divided by all eligible people. A less conservative response rate is the number of people who agreed to participate, divided by those who were able to be contacted.

Data analysis

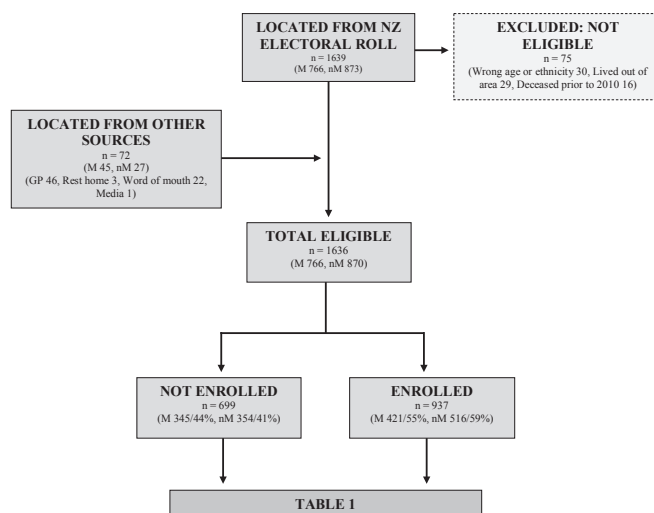
Recruitment and non-response will be reported numerically and as proportions by service subcontractor. Participation in each stage of the study will be reported. Non-response weights will be used to adjust estimates and confidence intervals. Representativeness was evaluated by comparing the proportions in the enrolled sample with proportions in the underlying population, exact age and same areas. Electoral roll data and census data were accessed from the Electoral Commission and Statistics New Zealand respectively.

Results

From the electoral rolls there were 766 Māori and 873 non-Māori age-eligible for the study. Figure 1 shows the detail of recruitment. An additional 72 people were located from other sources and 75 were found to be ineligible, thus 1,636 people were eligible: 766 Māori and 870 non-Māori.

Over 14 months, 421 (55%) Māori and 516 (59%) non-Māori were recruited into the study. One site was not able to attempt contact with their complete list. Otherwise all potential participants or whanau and family were able to be contacted. The main reason people declined to participate was that they "didn't want to" (n=407). Of the other people who did not participate, 132 died before they could be contacted, 62 had poor health, 20 reported being too busy, for one there was no proxy, one was never available to interview, and three people moved from one site to another but were not followed

Figure 1: Flow of participants into LiLACS NZ.



Notes: (GP = General Practice, M = Māori, nM = non-Māori) The wrong age or ethnicity is where a participant was listed on the Māori electoral roll and was found to be non-Māori and was not 85 years old.

Table 1: Description of recruitment success and participatory status in LiLACS NZ

	Site												Total Māori	Total non-Māori	Total Māori & Non-Māori
	1		2		3		4		5		6				
	Māori	Non-Māori	Māori	Non-Māori	Māori	Non-Māori	Māori	Non-Māori	Māori	Non-Māori	Māori	Non-Māori			
Disposition of eligible people across six sites															
Total eligible	145	100	3	128	94	19	254	620	234	36	3	766	870	1,636	
Total eligible not enrolled	81	64	1	58	35	4	89	228	139	0	0	347	354	699	
Declined to participate	54	52	1	51	21	3	64	178	65	0	0	207	284	489	
Contact attempted but unable to find ^a	9	3	0	0	4	0	0	2	14	0	0	27	5	32	
Did not contact ^b	0	0	0	0	0	0	1	0	40	0	0	41	0	41	
Died before contact	18	8	0	7	9	1	21	48	20	0	0	68	64	132	
Didn't participate for other reasons	0	1	0	0	1	0	3	0	0	0	0	4	1	5	
Any participation / total eligible n (%)	64 / 145 (44)	36 / 100 (36)	2/3 (67)	70 / 128 (55)	59 / 94 (63)	15 / 19 (79)	165 / 254 (65)	392 / 620 (63)	95 / 234 (41)	36 / 36 (100)	3 / 3 (100)	421 / 766 (55)	516 / 870 (59)	937 ^c / 1636 (57)	
Any participation / total contact attempted n (%)	64 / 127 (50)	36 / 91 (40)	2/3 (67)	70 / 121 (58)	59 / 84 (70)	15 / 18 (83)	165 / 229 (72)	392 / 572 (69)	95 / 174 (55)	36 / 36 (100)	3 / 3 (100)	421 / 653 (64)	516 / 805 (64)	937 ^c / 1458 (64)	
Participation across six sites															
Partial Interview	14 (22)	12 (33)	1 (50)	24 (34)	27 (46)	9 (60)	73 (44)	64 (16)	27 (28)	8 (22)	2 (67)	150 (36)	111 (22)	261 (28)	
Full interview (%/site)	48 (75)	24 (67)	1 (50)	46 (66)	31 (53)	5 (33)	91 (55)	328 (84)	68 (72)	28 (78)	1 (33)	267 (63)	404 (78)	671 (72)	
Physical (%/site)	48 (75)	23 (64)	1 (50)	45 (64)	28 (47)	4 (27)	86 (52)	305 (78)	68 (72)	22 (61)	1 (33)	253 (60)	378 (73)	631 (67)	
Bloods drawn (%/site)	26 (41)	22 (61)	1 (50)	30 (43)	28 (47)	3 (20)	82 (50)	303 (77)	59 (62)	16 (44)	0 (0)	212 (50)	358 (69)	570 (61)	
Review of medical records (%/site)	53 (83)	31 (86)	1 (50)	63 (90)	56 (95)	14 (93)	146 (88)	381 (97)	36 (38)	27 (75)	3 (100)	319 (76)	492 (95)	811 (87)	
NZHS data permission	54 (84)	33 (92)	2 (100)	61 (87)	51 (86)	14 (93)	149 (90)	387 (99)	93 (98)	30 (83)	3 (100)	379 (90)	498 (97)	877 (94)	

^a only 2 non-Māori from this site.

^b No phone number or other source of contact available; c 3 people were enrolled but did not complete any assessments

up after moving (Table 1). Table 1 also shows the recruitment success of the project for Māori and non-Māori.

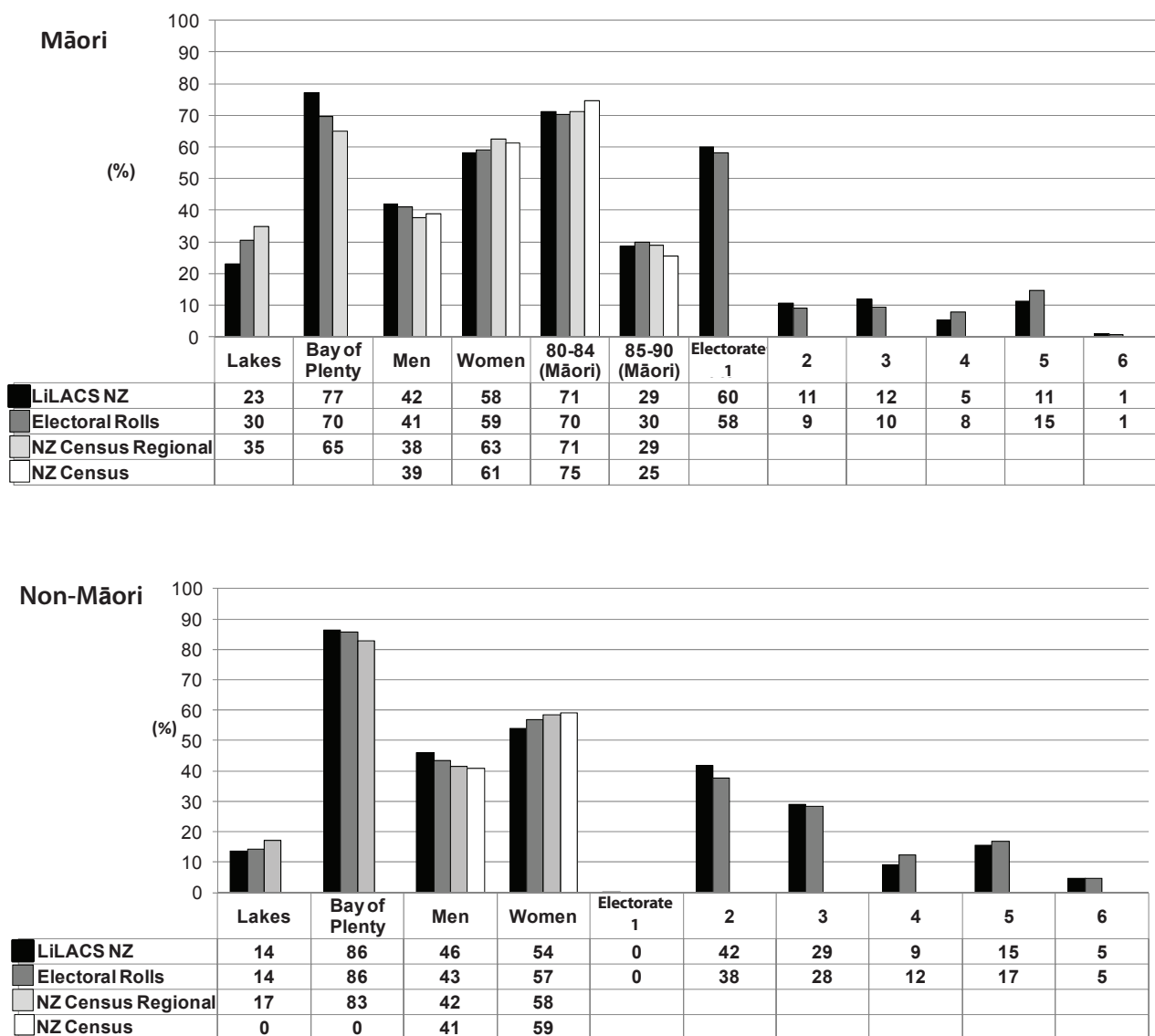
In terms of study processes, providing permission for medical record access from NZHIS was highest with 877 (94%) participants giving this permission; 671 (72% of participants) completed a full interview and 261 (28%) completed the briefer partial interview. Physical assessments were completed by 631 (68%), and 570 participants (61%) contributed a blood sample for analysis. Participants' decisions to decline any part of the study were taken at face value.

Figure 2 shows a comparison of people who agreed to participate as compared with the NZ General and NZ Māori Electoral Rolls and the 2006 NZ Census. Although for Māori there was a similar spread across genders as would be expected, we found more non-

Māori men and fewer non-Māori women were enrolled. There were fewer participants residing in the Lakes DHB and more in the BOP DHB than expected, probably as the Taupo region of Lakes DHB was excluded, or that there was greater migration into the BOP area since the last election. Our age spread was as expected for Māori. The NZ Census projected population proportion for these regions and all NZ are also shown in Figure 2.

While detailed costs were not available for individual recruitment, the full academic costs from the funders total NZ\$3.365 million, or \$3,375 per participant. This includes the cost of the feasibility study which was vital in the development of the project. There were several in-kind contributions, such as student time and community consultation time, which were not directly funded.

Figure 2: Representativeness of LiLACS study participants with eligible people from electoral rolls and census-based counts (%).



Notes: Participant and census counts were derived from self-identified ethnicity. Electoral roll counts were derived from self-reported Māori descent so will not match exactly the counts shown elsewhere. Electorates: 1 = Rotorua (Māori) Waiariki, 2=Tauranga (General), 3=Bay of Plenty (General), 4=East Coast (General), 5=Rotorua (General), 6=Coromandel (General). ± Based on actual 2006 census numbers *NZ 2010 total population projections.

Discussion

The LiLACS NZ study was successful in engaging 57% of older Māori and non-Māori in a longitudinal cohort study of ageing. However, there were 173 people who either died before contact or were not contactable, meaning 64% of those contacted agreed to participate. It is reasonable to question whether some of those who were not contactable may have moved out of the area and were therefore not eligible; or may have participated had they been found. The sample engaged was similar to the population of the area and the population of NZ in gender and age.

The need for indigenous engagement in longitudinal research was identified and carefully addressed.³¹ The recruitment rate was variable within both Māori and non-Māori populations and across sites. Differing recruitment strategies had no apparent impact on the overall proportion of people who enrolled in the study. One that can be highlighted, however, is the 100% response rate achieved by Site 6. They are a PHO and had a largely Māori patient base so employed largely whanaungatanga methods of recruitment. This face-to-face method by a known and trusted person was the most effective. After Māori consultation and Rōpū advice, local contracted organisations were preferred to conduct the research, rather than strangers coming into local communities. This enhanced the credibility of the study by providing a face to the study and a local contact who could be approached for further information and assistance if required. The support from the University was essential in standardising data collection and assuring data quality.

Through the feasibility study, Māori and non-Māori investigators together have maintained the value of Māori concepts and practices³² and, with Western science principles, have come to understand growing older as an intergenerational responsibility. This responsibility has been maintained through relationships with whānau and hapū, and with non-Māori for almost two centuries. Engagement of Māori participants was successful particularly considering doubts about research arising from prior studies²³ and known challenges in engaging minority groups.³³ Our success may be due to explicit and appropriate use of Kaupapa Māori research methods, deemed essential before any participants could be invited. Other studies of engagement of minority groups in research consider cultural competence,³⁴ the use of existing trusted relationships³⁵ and respectful community engagement³⁶ to be requisites for success, especially when older participants are sought.³⁶ Concerns about misuse of biological samples and privacy are common in longitudinal research in Canada³⁷ and these were addressed at all steps of the LiLACS NZ research process. Protocols for management of blood samples were debated at length at hui and within the subcontractor groups and the University-based research team.

Communication of a clear research question that is relevant to the community of interest and some expectation of direct benefit to the participant may also aid engagement with low income minority populations.³⁸ We directly addressed questions and outlined potential benefit to participants and support organisations at all times. Appropriate and localised community engagement throughout the research may have aided recruitment, as the best recruitment rates

were associated with the sites which had fewer potential enrollees. We recognise the need to address imbalance in recruitment across sites when analysing descriptive data.

In general, older people find research interesting and stimulating³⁹ and successful recruitment requires the development of strategies which take account of the sensitivities of care and protection within family and whānau relationships and sensory needs of older people. The local subcontractors ensured that families were well informed and had opportunities to discuss the risks and benefits of the research; type size and readability of materials was attended to; there was additional time for explanations; and attention to comfort during interviews assisted our processes. Training of the research team was conducted by researchers experienced in working with older people and the organisations locally engaged to conduct the research were known to the participants. Primary care recruitment strategies have been successful in recruitment of older people⁴⁰ and the GP is, in general, a trusted health professional for older people. GP databases provided most of the contacts additional to the electoral rolls. Letters sent from the university supplemented personal contact and netted a greater response rate for some sites.

We acknowledge that our participant burden was high with many participants opting for the partial interview. This will constrain the power of the study to examine quality of life and detailed social interactions. However, access to administrative medical records is established and independence, hospitalisation and longevity will be studied in almost all those enrolled. Other longitudinal studies of those in advanced age were successful in achieving 72% agreement for access to GP records, and 59% participation in a full interview and assessment in the Newcastle 85+ study in 2008,⁴¹ and 78% in the Leiden 85+ study in 1992.⁴²

The costs reported here cannot be generalised to other studies as each cohort study engages with specific population groups and conducts specific assessments and the costs will vary accordingly.

Conclusions

Recruitment of older people into research is a challenge and the indigenous population of New Zealand has an understandable suspicion of research, so careful attention needed to be paid to engage sensitively with them. Successful recruitment was maximised by appropriate community and primary care consultation; considered attention to the needs of older people; and Māori oversight and use of Kaupapa Māori research methods. Comparison of recruitment and participation rates with other similar overseas studies is favourable, the representativeness of the sample is acceptable and the potential for meaningful results which are useful for the participants, their whānau and families, health and social practitioners, planners and policy is high. A longitudinal cohort study of older people in advanced age is born.

Acknowledgements

We acknowledge the subcontractors for their attention and diligent conduct of the study. We acknowledge the participants and their whanau/families for their time. The RūpuKaitiaki: Hone Kameta, Florence Kameta, Betty McPherson, Te Kaanga Skipper, Paea Smith, Laiana Reynolds oversaw the project from the feasibility stage and throughout recruitment. Elizabeth Robinson guided the biostatistical planning and Rudi Westendorp gave advice at the planning stages. Funding was provided by the Health Research Council as part of a program grant and by Ngā Pae o te Māramatanga in a project grant.

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