Developing the
Research Priorities for
Ageing Well In South
Australia:
A Strategic Research Agenda

Report by the Centre for Health in All Policies Research Translation (CHiAPRT) for Office for Ageing Well, SA Health

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#### **Executive summary**

Some people experience ageing better than others. Research evidence shows that social and structural factors, also known as determinants, strongly impact how we age, our health, wellbeing and social outcomes. There are many opportunities across the life course, to improve physical and mental health, and social aspects of ageing well through policy, practice and community action. However, we are ill-prepared to act on these opportunities and address social and structural challenges without a strategic approach to generating new knowledge, through research. In April 2021, Office for Ageing Well, SA Health, engaged the Centre for Health in All Policies Research Translation (CHiARPT) to develop a Strategic Research Agenda for Ageing Well (the Strategic Research Agenda).

The purpose of this Strategic Research Agenda is to identify a range of priority research areas that can help to address questions of policy and community importance. This research agenda is relevant to, and can be used by, anyone generating or translating knowledge. Office for Ageing Well is committed to supporting all knowledge producers to address research questions of policy, practice and community relevance, by focusing on the social and structural determinants of ageing well. Ultimate aims of this research agenda are to focus and unify efforts towards evidence generation, increase efficiency and impact of research funding, and ensure that research activity is relevant and useful for policy and practice.

The Strategic Research Agenda was co-developed with over 100 participants representing a range of knowledge producers and users, citizen representatives, policy actors, practitioners and local thought leaders. An interactive, stakeholder-driven approach was chosen to ensure that stakeholder views, practice wisdom and expert knowledge informed the research priorities. Multiple methods were delivered over five stages (Figure 1), including steering group engagement and meetings, desktop scoping review, multi-stage stakeholder workshops for topic generation and ranking by consensus, and expert peer review. An interactive method, nominal group technique (NGT), was used to identify and prioritise topics and knowledge gaps, in order to shape future research on ageing well.

Figure 1: Interactive process to develop the Strategic Research Agenda for Ageing Well

STAGE 1: Project establishment

- •Identification and establishment of steering committee members
- Gathering of theoretical frameworks on determinants of ageing well to provide project parameters
- Desktop rapid scoping review International research agendas for ageing well
- Deliberation and endorsement of project parameters by steering committee "pillars" of ageing well

STAGE 2: Collaborative generation of research gaps / topics

- $\bullet \mbox{Identification of stakeholders to participate in collaborative research gap / topic generation \\$
- Workshop #1 September 2021 Interactive face-to-face workshop to generate topics / gaps for future research through nominal group technique
- 50 participants attended with 148 research topics generated



- •Review of 148 research topics to identify duplicates, overlapping topics etc.
- Extraction of enablers knowledge translation, policy making process and implementation, community participation and equity
- Review of topics for alignment with policy direction, community needs and preferences (South Australia's Plan for Ageing Well 2020-2025), international research priorities etc.
- •Transformation of topics/gaps into answerable research questions

STAGE 3: Refinement of priorities



STAGE 4: Ranking by consensus



- Workshop #2 February 2022 Interactive online workshop to vote and rate the final list of priorities according to percieved importance (significance / impact, feasibility, relevance)
- 40 participants attended and 36 voted / rated the list of 78 topics

STAGE 5: Consultation and reporting



- 38 Priorities included (voted by at least two people plus high importance score)
- Ranked priorities list discussed and endorsed by steering committee
- Strategic Research Agenda report produced, including South Australian and international research priorities

A total of 38 research priorities were identified (Figure 2) and are the foundation of this strategic research agenda. All priority research questions were organised under nine pillars:

- Homes, housing and the built environment (e.g. failure to address ageing well in housing design, inclusiveness (e.g. accommodating animal/human relationship), and private development and rental practices);
- Sense of community people (e.g. community connections);
- Arts and culture (e.g. features of programs that make them appealing, appropriate, respectful, and non-stereotyping);
- Regional and rural (e.g. appropriateness of current housing stock, future housing needs);
- Life course (e.g. how human rights can diminish as we age, safeguarding, primary prevention);
- **Social inclusion** (e.g. tackling ageism and negative narratives, learning and connections across generations);
- **Digital inclusion** (e.g. strategies to prevent digital exclusion, and support uptake of use of digital technology);
- **Getting around** (e.g. factors that incentivise car-use and discourage active transport; transport impacts in rural and remote areas);
- Economic participation, income and wealth (e.g. how society pays for ageing well, workplace strategies, future labour market, younger people's aspirations for economic participation in later life).

In addition, a total of 31 international research agendas describing various research priorities for ageing well were identified and documented by the rapid scoping review. This provides a useful point of comparison to some of the priority areas of international research activity and investment.

Enablers emerged that signalled opportunities to strengthen future research and its translation into practice and policy; through Policymaking process and policy implementation; Knowledge translation and end-user engagement; Equity; and Community engagement and participatory research.

Collectively, the enablers, as cross-cutting themes, highlighted current issues with research generation, use and translation. This includes policy design and implementation challenges, a lack of appropriate community and stakeholder engagement, and insufficient consideration of equity and lived experiences of marginalised people. While these enablers are aspirational and require dedicated effort and resourcing, they should be used to guide any new research in ageing well.

The interactive priority-setting process was found to be valid, insightful, and productive among participants and stakeholders. The valuable role of stakeholders in the development of this research agenda demonstrates the importance of collaboration in defining research priorities relevant to decision-making.

This strategic research agenda prioritises questions that will address gaps in knowledge on the social and structural factors that affect ageing well. It provides opportunities to build on existing local knowledge, skills and capability among the research, practice, policy and citizen communities. It also calls for multi-sectoral action, research-policy-practice engagement and partnerships, and cross-disciplinary collaboration. Central to future implementation of this agenda will be researcher capacity building, and innovative and flexible funding methods.

While implementation plans are currently in development, it is acknowledged that a range of approaches and funding mechanisms are required to support the diverse mix of research priorities of this agenda. Meanwhile, the agenda is intended for all researchers and knowledge co-producers pursuing ageing well in South Australia. The enablers can be used to guide new knowledge generation in ageing well. This will ensure that research is useful and used, that equity is a core consideration in evidence generation, and that citizens and community groups are given power in the knowledge generation process.

Figure 2: Research Priorities for Ageing Well in South Australia 'on a page'

# Ageing Well

# STRATEGIC RESEARCH AGENDA

#### SENSE OF COMMUNITY- PEOPLE

Identify key points of intervention for enhancing community connections; define what participatory models are most effective.

Explore how society pays for ageing well; identify effective workplace strategies, modes and methods for age-friendliness; model the future labour market; describe younger people's aspirations for economic participation in later life

#### REGIONAL AND RURAL

Determine appropriateness of current housing stock, and model future housing needs in regional/ rural areas

Identify effective policy interventions to prevent digital exclusion and improve service automation; describe older adults' barriers and enablers to digital technology use

Evaluate the characteristics of

arts and culture programs that

appropriate, respectful, and

non-stereotyping during ageing

make them appealing,

Determine the structural and systematic factors that incentivise car-use and discourage active transport; Understand the impacts on ageing well from inadequate transport in rural and remote areas

## HOMES, HOUSING AND THE

Understand the impacts of the failure to address ageing well in housing design; Evaluate process of implementation of design guidelines for ageing well and outcomes; Explore how to improve current housing solutions and their inclusiveness (e.g. accommodating animal/human relationships); Explore how to improve private development, and rental practices (e.g. pets, cultural considerations)

#### CULTURE

Reveal how human rights diminish as we age and identify effective ways to prevent and safeguard from harm; explore how to reorient systems towards primary prevention

#### SOCIAL INCUSION

Explore which individuals and organisations are best placed to tackle ageism; identify effective strategies for overcoming negative narratives; identify initiatives for learning and connections across generations to promote meaningful roles for all

#### ENABLERS

Knowledge Translation: Ensuring that existing research is used to inform policy and practice; and that new research is informed by current available evidence and the experience and needs of stakeholders/ end users.

Community participatory research method: Using approach and methods where research producers and stakeholders are equal partners in the knowledge generation process.

Policy making process & Implemenation: Transforming change through policy, and ensuring sound understanding of the different stages of the policy process.

Equity: Promoting change that does not discriminate, ensuring that no one is denied the opportunity to age well.

### Introduction: A research agenda on the determinants of ageing well

South Australians can expect to live longer, healthier lives than any previous generation. This brings opportunities to prevent disease and increase quality of life for people as they age. Most people live independently as they age and make many contributions to their communities, workplaces and families.

Some people experience ageing better than others. Research evidence shows that social and structural factors, also known as determinants, strongly impact how we age, our health, wellbeing and social outcomes. All of these factors are embedded across the life course. There are many opportunities to improve physical and mental health and social aspects of ageing well through policy, practice and community action.

However, we are ill-prepared to act on these opportunities and address social and structural challenges without a strategic approach to generating new knowledge through research and evaluation. To effectively address emerging policy priorities and ensure that investigator-driven research is coordinated and policy-relevant, a strategic approach to evidence generation and co-creation is needed. Office for Ageing Well, SA Health, is committed to developing a research strategy to support implementation of *South Australia's Plan for Ageing Well 2020-2025* (the Plan). A strategic research agenda will help to articulate knowledge gaps collaboratively and reach a shared understanding on what research is needed to promote ageing well and address determinants of ageing well.

The Plan identifies 'supporting conditions' to facilitate the Plan's vision for ageing well for all South Australians. The three key supporting conditions are especially relevant to research priority setting: 'outcomes-driven'; 'systems perspective'; and 'collaboration – the power of partnerships'. A coproduced strategic research agenda aims to achieve all of these: first, focusing on outcomes by listing research priorities to evaluate success and impact, and promoting learning from what works and what doesn't; second, by building capacity across disciplines and boundaries (research/practice/policy) to respond to diverse knowledge needs, and third, by bringing together a range of stakeholders with a role and interest in evidence generation and use, to set priorities collaboratively. By presenting the research areas needed to address knowledge gaps and policy challenges, critical policy and practice questions can be more strategically and efficiently addressed.

The purpose of the strategic research agenda is to identify a range of priority research areas that can help to address questions of policy and community importance. The strategic research agenda marks a new direction for Office for Ageing Well. Office for Ageing Well is committed to supporting all knowledge producers to address questions of policy, practice and community relevance, by focusing on finding solutions and actions to address the social and structural determinants of ageing well. Ultimately, the aim is to focus and unify efforts towards evidence generation among researchers, increase efficiency and impact of research funding, and ensure that research activity is relevant and useful for policy and practice.

It is important to note that the scope of this agenda does <u>not</u> include research related to aged care, palliative care, and health care. It is recognised that there has been significant efforts and investment into improving aged care and health care systems, and while there is more that needs to be done, the project team made the decision to exclude these areas from the deliberative process, as the Plan calls for action on the conditions that foster and support individuals and communities to age well. This research agenda focuses on the gaps in knowledge related to social and structural factors, which calls

for comprehensive, integrated, multi-sectoral and multi-disciplinary approaches to new knowledge generation.

This strategic research agenda aims to build on existing knowledge, skills and capability among the research, practice, policy and citizen communities.

#### The approach – how this research agenda was developed

Office for Ageing Well engaged the Centre for Health in All Policies Research Translation to develop a Strategic Research Agenda. A collaborative, interactive process was used to identify and prioritise topics and knowledge gaps, in order to shape future research on ageing well. The interactive, stakeholder-driven approach used is summarised in <u>Figure 1</u> and described in detail below.

#### Stage 1: Project establishment

A small group of experts were identified and invited to join a project steering committee comprising South Australian professionals from practice/service, policy, academia (research and teaching) and community. Members had expertise across a range of determinants of ageing well (including housing, built environments, infrastructure, work participation, social service, social inclusion, community engagement, community development, public policy, psychology, social behaviour and cognition, and health promotion). The project team identified, engaged, and coordinated the steering group, and facilitated endorsement of key project milestones through the group.

To provide parameters for the project, and to ensure that priorities generated would address the social and structural determinants of ageing well rather than health care or aged care, the project team gathered theoretical frameworks on determinants of ageing well. A range of established theories were compiled into one framework (**Appendix A**) and was deliberated and endorsed by the steering committee. The framework was broadly used to provide parameters for the project, by informing 'pillars' or areas of focus for subsequent generation of research priorities.

A desktop scoping review of international research agendas on ageing well/positive ageing/healthy ageing/active ageing ran concurrently to provide a backdrop understanding of international examples of research agendas and research priorities related to positive ageing/ageing well. A rapid scoping review methodology was used, to understand the breadth of evidence available on strategic research priorities for ageing well. Structured searches were performed in two databases of multiple journals (Web of Science and PubMed), along with a basic keyword search of the Campbell Collaboration's reviews and evidence gap maps. General internet searches in Google scholar were used to identify grey literature and policy documents. Structured search strategies used key words describing research priorities (e.g. evidence gaps, research agendas, strategic research), and Ageing or Later life (e.g. older people, 'aged' and synonyms as indexed in the published literature). The full search strategy is available upon request. Titles on aged care, palliative care, medical and dental conditions, mobile health technology, children and young people were excluded. Given the complexity of defining the breadth of social determinants of health and wellbeing with keywords, results were manually screened for relevance. To enable a rapid but reliable process, limits were placed on date published (in Web of Science: past 5 years only, in PubMed: 10 years and language: English only). All types of published research articles were included. In addition, an international research Priority setting project database was searched (https://ois.lbg.ac.at/en/project-database).

#### Stage 2: Collaborative generation of research gaps/topics

A wide group of expert stakeholders were identified for participation in collaborative process to generate topics and knowledge gaps. A group of 80 stakeholders were invited to the workshop including

researchers, policy actors, practitioners, and community representatives. The project team deemed it critical to attempt to bring together a range of stakeholders with technical, policy and research expertise, practice wisdom and knowledge of lived experience, across the determinants for ageing well. The invitees also included representatives from diverse and vulnerable communities. Fifty people attended and participated in an interactive face-to-face workshop.

Nominal Group Technique [1] was used to generate topics/knowledge gaps. Despite diverse interpretations of the application of the technique, generally it includes four phases: silent generation, round robin, clarification, and voting (ranking/rating). The method has been previously used to identify research priorities in other health-related areas [2, 3].

Silent generation allowed workshop participants to propose what knowledge gaps they perceived or experienced in their work and practice, including where practice or policy could be improved, and what evidence was ready for synthesis, active implementation, or knowledge translation. During the 'round robin' small group discussion, topics were recorded verbatim by a scribe, and clarification was sought where needed (but evaluation of the topics was discouraged at this time). A rapid assessment of topics by the workshop facilitators enabled identification of areas of overlap or lack of clarity, and participants were asked to reflect upon these during two rounds of clarification – first in a 'report back' to the whole group, and second, back in the small groups, and participants were encouraged to collectively include, exclude, or alter questions at that time.

The final list of topics was transcribed verbatim from workshop papers, producing a total of 148 topics.

Stage 3: Refinement of priorities and extraction of enablers

The project team met to do a review the 148 gaps/topics from workshop #1. Each topic was considered to determine whether:

- It aligned with SA policy direction, community needs and preferences (South Australia's Plan for Ageing Well 2020-2025)
- It was appropriate under the current pillar, or whether it fit better under another pillar
- It was framed as a research gap, OR
- It described a topic that was
  - duplicative or overlapping with another proposed question/priority
  - o out of scope (e.g. healthcare/care, not determinants/social structures)
  - o considered not a research topic but an 'enabler' (see note below), or was describing a policy/capacity building need, rather than an area for original research or synthesis.

The alignment-review process removed several duplicates and overlapping topics, and identified a range of topics that did not represent research gaps, 1) as determined by the project team and 2) as endorsed by the expert steering group. For any topics that were not deemed to be research gaps (n=39), these were identified as important policy issues or research conduct principles that signalled participants' experiences of a lack of research translation into practice/policy, and a lack of authentic community engagement and participation in research ('nothing about us without us'). These topics were extracted from the list and retained, transformed into 'enablers', acknowledging the critical need for any future research to engage with relevant stakeholders (policy, practice, community) and, for research to follow appropriate processes that increase relevance and impact beyond the academy. Following extraction, individual members of the steering committee with expertise in policy, service, practice, and advocacy reviewed the enablers to expand upon or add context to the topics. Enablers are reported on page 19.

Concurrent to steering committee discussion of the revised priorities list, individual members from the steering committee, being researchers and professionals with subject matter expertise, reviewed the revised list of priorities. Experts used their judgement based on experience with the subject matter to:

- Consider the empirical significance of each of the topics for the South Australian research context.
- Endorse the decision to remove topics/gaps that the project team deemed to be duplicative of existing effort in SA/elsewhere.
- Identify topics that were either still unclear, obscure, or that overlapped with another topic.
- Edit the wording of topics where necessary to reframe/formulate an 'answerable' theme or research question.

#### Stage 4 Ranking by consensus

To determine which of the research questions were considered to be important priorities for future research, and following the nominal group technique, a second workshop was held online to facilitate ranking by consensus. All participants who participated in workshop #1 were invited to return, and five additional participants. Participants were provided with temporary access to an online worksheet containing the revised list of research questions (n=78). In total, 40 participants attended the online workshop, and votes from 36 individuals were recorded anonymously in the worksheet. Participants were allocated five 'votes' each. Each vote was weighted to assist with eventual prioritisation, by assigning numbers 1 through 5 as a priority rating, with 1 being least, and 5 being most important. When allocating their five votes to individual research questions, participants were asked to consider criteria of 'significance/impact'; 'feasibility'; and 'relevance'.

At workshop #2, a total of 180 votes (36 individuals x 5 votes each) were spread across all pillars containing research questions. Raw ranking results were analysed to determine, for each question, the total number of votes (count), and score (sum of importance scores). Of the 78 research questions:

- 65 received at least one vote
- 43 received more than one vote (≥ 2)
- 37 received more than one vote (≥ 2), PLUS an importance score of ≥5.

The project team elected to include in the final priorities list any and all research questions that were voted by more than one participant ( $\geq 2$  votes) AND achieved an importance score of  $\geq 5$ .

#### Stage 5: Consultation and reporting

Finally, the ranked list of research questions (n=37) was discussed and reviewed by the steering committee. At this point, one additional question (ranked  $\geq$  2 votes, importance score 4) was added back into the list, acknowledging the lack of research questions representing economic participation. This brought the final list of research priority questions to 38.

The steering committee reviewed and endorsed the final list, prior to review by Office for Ageing Well.

The final list of priorities was intentionally inclusive of a diverse array of broad/thematic research topics, as well as more detailed research questions. Such heterogeneity was considered a desired outcome of the generation process — as priorities were generated inductively with expert participants, and then refined iteratively by key expert stakeholders across research, policy, and practice.

#### International research priorities for ageing well

In total, the rapid scoping review identified 31 international research agendas describing research priorities for ageing well. The focus areas of the research agendas were able to be qualitatively organised into similar parameters/pillars that were developed a priori for the strategic research agenda for South Australia, based on social determinants of health frameworks (1). All international research priorities reviewed are described in detail in **Appendix B:**, in a summary of findings of the rapid scoping review. Highlights of international research priorities included the following:

#### Homes, housing and the built environment

International research priorities in this area were focused on specialised housing solutions and making current housing stock more age-friendly; cohousing models in small-scale allotments and associated piloting of policy and guidelines; attitudes towards alternative housing options; and population trends in housing demand to inform policy. A depth of evidence is already available on neighbourhoods and the built environment, so recent research priorities focused on less well-studied areas such as neighbourhood features that can facilitate cognition in older age; the complexity at different scales of the environment and their impact on individual-level responses (e.g. restoration, walkability, social engagement).

#### Sense of community - people

Most research priorities in this area focused on friend relationships for reducing social isolation, and, civic and social engagement. Apparent gaps in knowledge were about behavioural and cognitive processes linked to friendship, perceptions and quality of friend interactions, and factors/contexts in which older adults enact friendships. Related to civic and social engagement, priorities included factors for maintaining social participation in social networking and informal caring, retirement transitions and social participation.

#### **Arts and culture**

Research priorities on participation in art and culture were mostly absent.

#### **Regional and rural**

Priority questions about rural inequalities, and the need to understand climate change impacts particularly for rural older populations, were identified.

#### Life course

Further research was proposed to address the issue of loss of value of older adults in societies.

#### **Social inclusion**

Research priorities focused on ageism and collateral forms of discrimination; positive ageing profiles of people age 80+ living in community (e.g. cohort studies); research engagement; gender-blind ageing policies; inequalities and specific marginalised groups during ageing, including LGBTI+ and intersectionality during ageing.

#### **Digital inclusion**

Numerous priorities focused on digital exclusion patterns and interventions, digital marketing and adoption/use of technology, and factors determining online engagement and customer experiences.

#### **Getting around**

It appears that mobility has traditionally been conceptualised as movement from one location to the other, typically outdoors, resulting in a large body of available evidence on mobility patterns. Consequently, recent research priorities focused beyond outdoor movement to understand diversity in mobility, modes and travel companions; variations in individual mobility; and variations between sociocultural settings. Transitioning from driving was another proposed knowledge gap, highlighting the need for greater understanding of the intersecting factors underlying driving cessation, and what support, programs and improvements in age-friendly communities are needed.

<sup>&</sup>lt;sup>1</sup> Adapted from various published Social Determinants of Health frameworks, synthesised with the Office for Ageing Well Ageing Policies and Projects team, May 2021

#### Economic participation, income and wealth

Several priorities related to workplaces (including age-friendliness of) and assistive technologies; self-employment and entrepreneurship (including quality of life related to); voluntary work and volunteering benefits; literacy, and second languages/multilingualism. Research priorities on financial security included life course transitions and impacts of societal modernisation and social security systems.

#### Personal safety and security

One agenda proposed to better understand linked data on perceptions of safety and actual experiences of crime among older people. Other priorities included impacts of changing neighbourhoods; ageing and living situations and social structures.

#### Health and wellbeing

Priorities included ageing and disability (and knowledge translation between these fields of research); behavioural interventions; assistive technologies to support remaining in own home; and sleep and impacts of disturbances. Other proposed priorities related to social and spatial environments and their impacts on agency – for example, norms about health in later life and how this is negotiated by people with different social, economic and cultural backgrounds. Priorities for future research in home visiting were focused on increasing theory-informed evaluations to better understand processes and effectiveness of home visiting programs.

#### Other research priority setting investments

Among all research agendas reviewed, two national research strategies for ageing well were identified. New Zealand's [4] addressed priorities related to mind health, social wellbeing, health services and age-friendly environments; and Ireland's Healthy and Positive Ageing for All 2015-19 [5] covered 'Health' (Health Inequalities, Social Care, Health Services research, Health and Health Behaviours, Palliative and End of Life Care); 'Participation' (Civic and Social Engagement, Transport, Education and Skills), and 'Security' (Ageing in Place, Financial and Personal Security/Safety). Cross-cutting themes included Ageism, Information, Technology, and Cohort Analysis.

Two articles analysed global priorities for evidence-based policy on ageing across Europe [6], and the National research agenda in The Netherlands [7]. Key findings were that 'active ageing' had become the principal content of policy in various parts of the world; that there are ongoing gaps between research and policy processes. Further, half of the research questions came from citizens, indicating a socially supported agenda in this area [7]. The authors proposed greater alignment between research projects and major policy endeavours [6].

#### Research Priorities for Ageing Well in South Australia

A narrative synopsis of the research priorities for ageing well in South Australia is provided below (as well as in <u>Figure 2</u>) and all detailed research priority questions are presented in <u>Table 1</u>.

#### Notes

**Pillars:** All research priorities are presented under a relevant pillar. Pillars correspond to the organising framework of determinants of ageing well <sup>1</sup>.

Research priority questions and sub-questions: This strategic research agenda includes both priority questions accompanied by sub-questions (as was generated through the nominal group process), and these groups of questions are intended to be addressed collectively. The priorities list reflects a diverse array of both broad research priority areas, as well as more detailed topics formulated as research questions, for future inquiry. This diversity offers opportunities for future development and further refinement of priorities, according to emerging policy needs, community sentiment or in response to new empirical evidence. Further, all research priorities are intended to be viewed from a perspective of relevance for end-use. Some priority areas (e.g. for policy development) may need broad reviews or overarching research programs including a range of lines of inquiry, while for some areas (e.g. program and service delivery), practitioners may need specific answers to defined questions in a discrete research project.

**Types of research:** Various types of research are represented in the priorities. While no specific typology was imposed upon the resulting list of priorities, some of the types of research include, but are not limited, to three broad types: research on defining problems, burden and etiology; on effectiveness of interventions and policy; and on improving implementation (policy, services, community experiences, etc.)

#### Homes, housing and the built environment

Several research questions are considered priorities for future research under this broad pillar, while recognising the maturity of the existing evidence base in homes, housing, neighbourhoods, and the built environment. Priority questions relate to the impacts of failure to address housing design, and on implementation of better housing design guidelines for ageing well, and their wellbeing and economic outcomes. Other priorities related to inclusiveness of current housing solutions and rental practices (e.g. pets, cultural diversity).

#### Sense of community – people

Given the vast evidence base available on social and community connections, priority questions for future research reflect a focus on understanding key points of intervention for enhancing community connections and uncovering what participatory models are most effective.

#### **Arts and culture**

Priorities for future research in arts and culture are to articulate what characteristics of arts and culture programs make them appealing, appropriate, respectful, and non-stereotyping. Stakeholders for this knowledge generation should be broadly considered, including non-government organisations and the social support and care sector.

#### **Regional and rural**

Acknowledging the unique and diverse needs of older adults in our regions, priorities for new research include uncovering how appropriate the current housing stock is, and importantly, what the future housing needs are.

#### Life course

Priorities for research seek to reveal how human rights diminish as we age, and importantly, what can be done to prevent and safeguard from this. Other research priorities focused on reorienting systems towards primary prevention (as opposed to crisis intervention, acute care, etc).

#### **Social inclusion**

Reducing age discrimination is a strong priority for future research in South Australia, with a focus on identifying which individuals and organisations are best placed to tackle ageism; and what strategies are effective for overcoming negative narratives of ageing (and building value among the younger generation in the experience and expertise of older people). Another area of focus is on cross-generational connections, to find out what initiatives for learning and connections across generations to promote meaningful roles for all.

#### **Digital inclusion**

Research questions on digital inclusion were influenced by the international research agenda review, and priorities include understanding what policy interventions are effective to prevent digital exclusion, improving service automation, and barriers and enablers to older adults' use of digital technology.

#### **Getting around**

Acknowledging the body of evidence available on individual mobility, future research priorities are to determine the structural and systemic factors that incentivise car-use and discourage active modes of transport; and, to understand the impacts on ageing well from transport in rural and remote areas.

#### **Economic participation, income and wealth**

Priorities relate to both the macro-economic level, and to organisation and individual-level contexts. Priorities for research include how society pays for ageing well; workplaces and their age-friendliness, modes and methods; what the future labour market looks like; and younger people's aspirations for economic participation in later life.

#### Interpretive notes on the research priorities:

A range of types of research is possible to address the knowledge gaps represented in the priorities. Each priority question and its sub-questions represent diverse areas of inquiry that can be further refined and developed in future. For some priority areas, such as housing needs, there may be 'quick win' research projects that can be easily identified and resourced, such as mapping current population (census) data on housing and mobility by demographic variables (living alone, disability, low income etc.) and linking this to future population projections using the same variables (as has been achieved in ongoing research in Australia). For other areas, the priorities represent quite complex questions that require greater nuance and multiple projects in order to address the overarching question. As one example, in 'life-course', the questions related to human rights and prevention approaches are significant and would need to be addressed through multiple lines of inquiry across a range of life indicators (such as social isolation, housing stress, chronic disease etc.) and with multiple stakeholders and methods.

In general, across the list of priorities, it is recommended that the primary research questions would be difficult to address in isolation of the accompanying sub-questions. One example is the array of questions related to tackling ageism: these research questions attempt to define the burden of the problem, as well as to uncover effective, practical solutions, and how they could be implemented.

It is important to note that for many of these priorities, topics were generated in order to advance knowledge by building on current evidence, practice wisdom and lived experience. In this inductive and interactive project, no systematic method was able to be performed to check for explicit overlap between the proposed research priorities against existing empirical evidence (e.g. through systematic review evidence gap maps). Therefore, in some areas, a solid foundation of research activity may indeed exist in South Australia, Australia or internationally, which would need to be consulted prior to progressing these priorities. Examples of local knowledge base is in housing design guidelines and accommodation features (such as pet engagement) – the imperative for this area is therefore to build upon and advance implementation research and knowledge translation, so that we may close the gap between what is already known, and what is actually being done. Other areas where substantial evidence has been emerging in the international literature may include, for example, barriers to digital inclusion; and possibly in active travel.

Table 1: Research Priorities for Ageing Well in South Australia

Priority questions	Sub-questions		
Homes, housing and built environment			
1. What are the impacts of failure to address housing design, affordability, and supply to support ageing well?	<ol><li>Do current design guidelines in housing support the wellbeing older people?</li></ol>		
	3. What are the barriers and facilitators related to the implementation of accessibility/ universal design guidelines in practices?		
	4. How to "incentivise" developers (and individuals/system) to design/build housing that supports wellbeing of older people?		
	5. How do we best support older people on low incomes to live independently in long-term, secure housing?		
	6. What are the likely implications for the wellbeing of communi- arising from not addressing housing design and affordability across the lifespan?		
	<ol><li>What are the likely implications for the economy arising from addressing housing design and affordability across the lifespar</li></ol>		
8. How can we better accommodate pets (animal / human relationships) in housing solutions and home/ neighbourhood design?	9. Inclusion of pet ownership in housing solutions for older peop		
<ol> <li>How well do current housing models/ design guidelines address diversity (e.g. cultural considerations)</li> </ol>			
11. To what extent do restrictions on private rentals (e.g. pet ownership, cultural practices) limit access to housing for older adults?			
12. How can local and state governments most effectively support appropriate housing options for older adults?			

#### Sense of community – people

- 13. What are the key points of intervention for enhancing community connections and reducing social isolation and loneliness?
- 14. What participatory models with older residents are most effective in practice and policy of developing age-friendly cities/communities?

#### **Arts and culture**

15. What are the characteristics of arts and culture focused programs for older adults that: (a) make them appealing and appropriate to older participants, (b) engender respect among all involved and avoid age-related stereotypes, and (3) create opportunities for intergenerational participation?

#### **Regional and Rural**

- 16. What are the future housing needs of older adults in our regions?
- 17. How appropriate is current housing for older adults in regional areas?

#### Life-course

- 18. How do human rights diminish as we age; and what can we do to raise awareness about that and to improve safeguards?
- 19. What early indicators or predictors do we need to enable for *prevention* of future problems, rather than crisis intervention and support)?
- 20. How can researchers, governments and policy makers best adopt a preventative focus to intervene in ways that promote optimal outcomes for older adults?

#### **Social inclusion**

21. To what extent is systemic, structural age discrimination a problem, and how does discrimination contribute to social exclusion and isolation?

- 22. What successful strategies can be developed and implemented to reduce ageism?
- 23. Which organisations and individuals in the community are best placed and responsible to play an active role in reducing age discrimination?
- 24. How to have constructive conversations about ageing to better prepare for ageing?
- 25. How do we change the negative narratives of ageing (seen not as a burden but an asset; seen as a productive workplace asset, volunteering), and what images and narratives on ageing best embrace the ageing process and reflect people's real experiences?
- 26. How can we enhance intergenerational connections in our communities (e.g. across life course, and aged-care and childcare mix?)

#### **Digital inclusion**

- 27. What policy interventions can prevent harmful digital exclusion of older people?
- 29. How can aspects of service automation be improved to better meet the needs of older consumers/users?
- 28. What are the barriers and enablers to older adults' use of digital technology?

#### **Getting around**

- 30. What is the impact (social, physical etc) of incidental exercise involved in active travel for ageing well?
- 31. What are the structural/ systemic factors that currently incentivise car-use and discourage walking/ cycling/ public transport in SA?
- 32. To what extent do the challenges to effective and consistent transport in rural and remote areas limit opportunities for ageing well?

#### Economic participation, income, and wealth

- 33. How do we pay for ageing well as a society?
- 34. What can workplaces and agencies do to support people to age well? (e.g. age-friendly workplaces, models and methods in work environments)
- 35. How do we improve flexible work arrangements for older persons?

- 36. What are younger people's aspirations for their economic participation as they age? (and how does this relate to aspirations/perceptions of home ownership and family formation etc)
- 37. What initiatives promote learning and connections across generations in ways that promote meaningful roles for all (younger and older) participants?
- 38. What does the future labour market look like for older people, and how do we account for the heterogeneity of ages amongst older workers?

#### **Enablers**

To ensure that future knowledge benefits the stakeholders and end-users that it purports to serve, a strategic and inclusive approach is essential throughout the research process. A range of participatory methods and knowledge translation processes are available to researchers across all disciplines, with the most elementary being authentic stakeholder and community engagement at the commencement of new research.

In addition, it is widely acknowledged that future research and data collection priorities must do more to ensure the inclusion of lived experience and involvement of under-represented groups such as Indigenous Australians, women, older people in prison and those transitioning back into the community following incarceration [8].

A summary of the enablers generated through this process is provided below and in detail in <u>Table 2</u>:

- **Knowledge translation**: ensuring that existing research is used to inform policy and practice; and, that new research is informed by current available evidence and the experience and needs of stakeholders/end-users.
- **Community engagement and participatory research**: approaches and methods where research producers and stakeholders are equal partners in the knowledge generation process.
- **Equity:** Promoting change that does not discriminate, ensuring that no one is denied the opportunity to age well.
- **Policymaking process and policy implementation**: Transforming change through policy and ensuring sound understanding of the different stages of the policy process.

Collectively, the enablers signal opportunities to strengthen future research and its translation into practice and policy; and current issues with research and policy are highlighted – including a lack of appropriate community and stakeholder engagement, and insufficient consideration of equity and lived experiences of marginalised people. While many of these topics are aspirational and require dedicated effort and resourcing, these enablers should be used to guide any new research in ageing well.

#### Table 2: Enablers for future research for Ageing Well in South Australia

#### Knowledge translation: using existing research in policy and practice

- Promote awareness of barriers to evidence-informed action (such as political drivers, lack of collaboration and cooperation)
- Promote awareness of the existing evidence base on the barriers and enablers to translating current research evidence into policy and practice
- Consider how to overcome the risk of populist/political non-evidence-based decision making and implementation
- Transform research findings into policies that can be implemented, evaluated and will evolve over time, to help adequately resource and implement policy, guidelines and funding allocation
- Encourage research partnerships: empowering, embedded, sustainable, productive partnerships across all stakeholders (aged care, community, business, policy makers, service providers)

#### Community engagement in research and participatory research methods

- New research should include older residents, age friendly participation methods and co-design involve and engage according to IAP2 spectrum guidance. "Nothing about us without us"
- Promote research projects that enable participation from the beginning, in planning as well as during implementation

#### **Equity**

- All new research for ageing well should include a diversity lens and research methods should aim
  to be inclusive of the experience and perspectives of people who speak a language other than
  English at home, Aboriginal elders, LGBTI elders, women, older people in prison and those
  transitioning back into the community following incarceration
- Explore how to ensure that evidence-informed interventions reach the people that they intend to reach/serve
- Future research projects should seek input from diverse voices ensuring marginalised voices are heard – perform needs-based segmentation as promoted in South Australia's Plan for Ageing Well 2020-2025
- Explore and evaluate how to improve inclusion of diversity of participants in Health and Wellbeing research studies (e.g. Exercise studies often have predominantly male samples)

#### Policy making process and policy implementation

- Identify policy gaps in ensuring affordable, accessible housing
- Address overlapping plans such as Health region plans and South Australia's Plan for Ageing Well
   2020-2025 to ensure diversity planning
- Embed policymakers in community (e.g. through co-locations, secondments) to generate policy with local lens
- Explore how to effectively assess and address barriers for diverse groups/communities in accessing public transport; and consider if this type of information is collected in a culturally appropriate way/how to improve
- Improve evaluation of policy implementation, to ensure accurate interpretations of policy when it is implemented
- Ensure that products and services for older South Australians are consumer-led and scalable in practice

#### Future implementation

This strategic research agenda provides opportunities to build on existing local knowledge and act on identified knowledge gaps as relevant for local practice, policy and community action. The agenda is intended for all researchers and knowledge co-producers, and users of evidence in the pursuit of best practice for ageing well. The list of research priorities should be used and advanced in future, to inform better policy and services, and to inform how we act upon exposures and environments that affect ageing well in South Australia.

For many areas of this agenda, relevant program of research activity may indeed exist in South Australia, Australia or internationally, which would need to be consulted prior to progressing these priorities. It is imperative that in progressing these priorities, knowledge producers take the responsibility to engage with existing empirical evidence, in order to build upon existing research. This will help to ensure that we may close the gap between what is already known, and what is actually being done.

The enablers identified through this process can be used to guide new knowledge generation in ageing well. This will ensure that research is useful and used, that equity is a core consideration in evidence generation, and that citizens and community groups are given power in the knowledge generation process.

The Project team used co-design and deliberative methods to determine the research priorities. The Steering Committee was an important element in the process, not only did they provide the Project team with access to broad research and policy expertise across the determinants for ageing well, they also played a critical reflective role, helping to ensure the validity of the process. However, this needed time, time to establish relationships with and across the Steering Committee members and to build their connection and ownership over the project. The process drew on the views of the people in the room, and despite attempts to ensure appropriate representation this was not always possible. For example, the views of the Aboriginal community were not adequately captured and while the priorities identified can be considered to also apply to Aboriginal communities, there are likely to be a number of gaps. Further work is required to represent the voices and lived experience of Aboriginal and Torres Strait Islander people, and to establish additional strategic research priorities for ageing well relevant for Aboriginal people and communities.

While implementation plans are currently in development, we acknowledge that a range of approaches and funding mechanisms are required to support the diverse mix of research priorities of this agenda. Central to future implementation of this agenda will be researcher capacity building, and innovative and flexible funding methods. Multi-sectoral action, research-policy-practice engagement and partnerships, and cross-disciplinary collaboration are all essential for the future delivery of the strategic research agenda.

### Acknowledgements

The Project Team would like to acknowledge the valuable contribution of the Steering Committee members (listed below) and thank them for their insightful reflections and guidance throughout the project. We would also like to acknowledge and thank the workshop participants, whose input and contributions have delivered the Ageing Well Strategic Research Priorities. Without their expertise, wisdom and commitment this project would not have been possible.

South Australia is well placed to progress the Ageing Well Strategic Research Priorities under the leadership and guidance from Office for Ageing Well, and with the support from the many individuals and organisations who have engaged so positively with this project.

Steering Committee Members		
Jane Mussared or nominee- COTA Ageing Well, rural and life Course: -Policy and NGO Perspective	Professor Helen Barrie- University South Australia Housing and built environment: -Academic perspective	
Kate Kameniar- Southern Cross Care Ageing Well, life course and arts and culture: - Policy and NGO perspective	Benjamin Cooper- Infrastructure SA Housing, getting around, and built environment: - Policy Perspective	
Professor Tim Windsor- Flinders University Social inclusion and sense of community: - Academic Perspective	<b>Dr Sanjee Perea- University South Australia</b> Employment, income, and work: -Academic Perspective	
Kathy Williams – Office for Ageing Well Determinants of Ageing Well: - Policy perspective State Government	Mark Henley- Uniting Communities Social, economic, and digital inclusion: -Policy and NGO Perspective	
Malin Bagling-Jonsson- Office of Ageing Well Ageing Well: - Policy perspective – State Government	Helen Donovan- Walking SA (CEO) Getting around and sense of community: - Policy and NGO perspective- Local govt	
Dr Tahna Pettman- CHiAPRT  Determinants of Ageing Well: -Research perspective – research - policy translation	Professor Hans Pieters- University South Australia Urban Planning: - Academic perspective	
Associate Professor Carmel Williams- CHiAPRT (Chair)  Determinants of Ageing Well: -Policy perspective – research - policy translation.		



#### About the Centre for Health in All Policies Research Translation

The Centre for Health in All Policies Research Translation (CHiAPRT) based within Health Translation SA and the School of Public Health in the University of Adelaide has been established to work with policymakers and academics at the international, national and local level to increase research-policy translation in ways that delivers improved public policy, and leads to better health, wellbeing, and equity outcomes. CHiAPRT works across disciplinary and sectoral boundaries to foster collaborative action between researchers and policy actors strengthening relationships, building capacity and increasing knowledge.

## **Appendices**

Appendix A: Framework of determinants for Ageing Well (application of a primary prevention lens to population ageing): factors that contribute to people ageing well

Based on World Health Organisation commission on Social Determinants of Health 2008 [9] Socioeconomic and **Political context** Material circumstances **Behavioural** Macroeconomic policies Biological Housing **Psychological** Homes+ Housing **Living conditions** Ageing well Digital/Technology Homes + housing Health - Social+ Digital Socioeconomic Social + Wellbeing inclusion position economic Equity participation Discrimination Income, Wealth + Arts + Culture Age **Labour Market** Getting around Class Social + Digital Income + Wealth Gender inclusion Social + Economic Ethnicity participation Health + Ability/Disability wellbeing Social + Economic Income+ wealth **Environment + Land use** position Sense of Getting around community Neighbourhood + Social+ Digital inclusion Neighbourhood + built environment built Income + Wealth environment **Culture + Societal Values** Sense of community **Social Cohesion** Health System Social + Digital Sense of community Health + Social + digital participation wellbeing inclusion **Intermediary** Structural and system factors **Factors** 

Appendix B: Summary of findings of the rapid scoping review of international research agendas on ageing well

Theme/ pillar	Summary of research priorities identified	Detailed research priorities
Homes and Housing Specialised housing and social infrastructure [10], alternative housing options [4, 5] [11], Cohousing models [12]	social infrastructure [10], alternative housing options [4, 5] [11],	<ul> <li>Specialised and alternative housing solutions/options; alternatives to residential care, and integrated care options situated between community care and residential aged care; together with principles and guidelines to ensure access for those with low incomes, low assets, rural/remote</li> <li>Older people's attitudes to alternative housing options and how distributed (by age, gender, social class, geography)</li> <li>How current housing stock can be made more age-friendly (including practical and affordable modifications)</li> <li>How age-friendly public housing can support older people from disadvantaged backgrounds</li> <li>Why older people in insecure housing/homeless appear reluctant to take up services, despite Government initiatives</li> <li>Relationships between population ageing and trends in housing demand to inform policies that respond to needs; and Geographic technology to model and forecast demand for specialised housing stock and services</li> <li>Industrial engineering and production – to improve efficiency of supply networks and mitigate rising expenditure for care</li> <li>Cohousing models</li> </ul>
	<ul> <li>(SA) Titling and Land Management Agreement; Property value and construction cost modelling, funding and financial modelling, National construction code assessment, scenario development and testing. In addition to the development of policy (to progress the model to permitted development), Design guide, and Resident's Charter template</li> </ul>	
Sense of community Friendship for reducing social isolation [13]; Civic and social engagement [5]	<ul> <li>Behavioural and cognitive processes (e.g. how people think about and analyse friend relationships; how perceptions of friend interactions influence friendship initiation, stability, or loss; influence of emotions on friendship quality)</li> <li>Appropriateness and effectiveness of friendship programs/interventions</li> <li>Problem-solving strategies by community practitioners for friendships (not just family relationships)</li> <li>Psychological costs of friendship – what interferes with friendship enactment and satisfaction</li> <li>Gender, racial/ethnic status factors, and contexts in which older adults enact friendships</li> </ul>	
		Civic and social engagement
		<ul> <li>Identify the important determinants for maintaining social participation in social networking &amp; informal caring in the 'over 50s'</li> </ul>
		<ul> <li>Explore and analyse data on retirement transitions and the post-retirement social participation</li> </ul>
Social and	Age-friendly workplaces	Age-friendly workplaces and ageing workforce management
Economic Participation	[5] and Ageing workforce management [14]; Self-	<ul> <li>Age-friendly workplaces and technology solutions, and what initiatives can enhance age-friendliness</li> </ul>

employment in later life [15]; Senior entrepreneurship [16, 17]; Voluntary work [18]; Literacy [5]; Secondary language acquisition [19] [20]

- Age-related measurements datasets to help evaluate how workers' experience and functional capacities change with age, how assistive technologies affect productivity and motivation
- Age-friendly models and methods for production planning and control

#### Self-employment in later life

- individual factors (e.g. age, sociodemographics perceived time, preferences, values) and contextual antecedents (e.g. family, community, society) influencing decisions to become self-employed –and how this experience shapes individual outcomes (e.g. health, wellbeing, economic security) and societal outcomes (e.g. economic and community value)
- Self-employment experiences of older adults, including how, where, and with whom the work is completed

#### Senior entrepreneurship

- Relationship between quality of life and performance outcomes, and entrepreneurial activity's impact on active ageing
- Senior entrepreneurship examined through multidisciplinary lenses including psychology, gerontology, economics, and sociology [16], multidisciplinary influences on older entrepreneurship [17]
- Ethnographic studies to understand how the environment affects ability to be entrepreneurial, and Case studies showcasing successful older entrepreneurs, to understand the role of the environment in their success (e.g. sport, technology)

#### Voluntary work

Longitudinal evidence to understand causal effects on health outcomes (beyond mortality)

#### Literacy and numeracy

Interrelationship between adult education and skills (literacy and numeracy) and positive ageing outcomes

#### Second languages, multilingualism

- Include social and cognitive elements in future research, due to reciprocal relationship between socialization and cognition
- The complexities of age in language learning [20]; observe older adult learners in language classrooms to document and evaluate current practices
- Needs analysis of teachers and learners to identify older adult learners' needs
- How sociocognitive variables (literacy practices, social networks) affect older adult migrants' learning outcomes from a given instructional approach
- The impact of quantity and quality of language learning beyond the classroom
- Develop, validate and administer a language-background questionnaire appropriate for older adult learners and multilinguals, to understand relationships between the multilingual experience, proficiency and executive functioning
- Targeted interventions for multilingual older adults to engage in language, and assess cognitive changes

# Arts and Culture

Wisdom and age-related mechanisms [21]; loss of value [4]

Potential mechanisms and moderators of age differences in the 'Common Wisdom Model' [21]; including age-related mechanisms (interactions between cognition, emotion, personality, motivation), contextual factors (physical setting, social context, cohort, culture), Task characteristics and type of assessment method (e.g. performance measures vs disposition measures)

# Social and digital inclusion

Age-friendly engagement [5] [22] [4]; Reducing inequalities [5]; Gender-specific Active ageing [23];

Older LGBT inequalities [24]; Physical and social isolation in rural areas [25];

Adoption and use of digital technology and marketing [26];

Loss of value of older adults

#### Age friendly engagement

- Experiences and perceptions of ageism as a barrier to community participation for older people (from Ireland)
- Monitor ageist language in the media (from NZ)
- Research that engages and partners with those we seek to serve
- Research that is 'activist in stance and committed in nature' to reshape attitudes, inform more realistic beliefs, and implement new structures and processes that dismantle ageism and collateral forms of discrimination

#### Reducing inequalities

- Marginalised groups as they age and their health outcomes e.g. the traveller population, migrants/ethnic minorities, homelessness, physical/sensory disabilities and the LGBT community
- Develop and analyse national and local datasets to estimate and map inequalities in key positive ageing indicators
- Develop a quantitative index that allows national and international comparison of health inequalities for older people
- Develop a sustainable means of analysing population ageing health indicators and inequalities at a national and local level, e.g. 'healthy life expectancy', 'disability adjusted life years'

#### Gender

• Interrelation between gender and different economic aspects of "active aging": international, comparative, cultural, and longitudinal perspectives

#### LGBT+

Produce large data sets and comparative data collection; Address diversity and intersectionality; Investigate health care
capacity to deliver appropriate services; Identify effective health promotion and/or treatment interventions; Develop an
older LGBT+ health equity model; Utilise social justice concepts to ensure data collection informs policy, health promotion

#### Rural inequalities

- Health disparities between rural and urban areas and across rural areas; trends in rural population health and ageing
- Ways in which economic wellbeing and livelihood strategies interact with rural health and ageing
- Health implications of the physical and social isolation characterising many rural communities
- Implications of local natural environments and climate change for rural population health and ageing

#### Digital marketing and adoption and use of digital technology

- Digital exclusion patterns of adoption among different services and hardware, engagement mechanisms, reaching disengaged older consumers, policy interventions to prevent harmful exclusion
- Social media understand drivers behind adoption by older users, factors determining engagement etc.
- Digital advertising age-related segmentation, understanding adoption of ad blocking, physical limitations on mobile devices

		<ul> <li>Service automation – older consumers' evaluation of service quality, understanding how self-service can improve quality through addressing cognitive and physiological limitations</li> <li>Online retail – meeting needs, building trust</li> <li>Online customer experience – influence of ageing on customer experiences; older consumers' responses to different forms of media (e.g. text, photo, video); age-related factors linked to new hardware (e.g. Google home, Apple watch); whether online experiences designed for users with disabilities can meet needs of older consumers</li> <li>Privacy – understand trust issues, willingness to disclose information, how to reduce risks of data/privacy fraud</li> </ul>
Getting Around  Meaningful mobility [27]; Safe Mobility and Transitioning From Driving to Non-driving [5] [28]; Mobility scooters [29];	Safe Mobility and Transitioning From Driving to Non-driving [5] [28]; Mobility scooters	<ul> <li>(a) Beyond outdoor movement; (b) diversity in mobility; and (c) the role of time in mobility – e.g. quantitative and spatial research on indoor and outdoor mobility patterns (routes, speed, length, timing and frequency of movement, number and types of places frequented, mode of transport and travel companions)</li> <li>How much older adults move indoors and outdoors –and how do these patterns differ between 'healthy' vs impaired people</li> <li>How do movement patterns differ between socio-cultural settings</li> <li>Qualitative research on how older adults perceive mobility in their everyday lives</li> </ul>
	Transitioning from driving	
		<ul> <li>Intersecting factors underlying driving cessation; what resources/services are needed for family members/caregivers to help</li> <li>Transport usage, driving cessation and their health and wellbeing impacts (explore national data)</li> <li>Evaluate transition programs especially re: reducing adverse consequences of driving cessation</li> <li>Mobility beyond driving; e.g. does moving to a retirement community/walkable area provide better options for maintaining personal mobility?</li> <li>Liveable and age-friendly communities – build evidence of demonstrable outcomes on healthy ageing and transportation</li> <li>Strategies to build coalitions with a broad range of stakeholders to enhance mobility</li> </ul>
		Mobility scooters
		<ul> <li>Impacts on older people employing mobility scooters (research involving users)</li> <li>Impact on urban space - public spaces and passageways used as travel routes, barriers impeding travel, lack of appropriate parking solutions in the urban environment</li> <li>Safety issues of mobility scooter driving, travel regulations, infrastructure design regulations</li> </ul>
Neighbourhoo	Cognitive-friendly	Cognitive-friendly environments
d and the built	environments [30]; Activity-friendly built	New insight into design of cognitive-friendly environments: the complexity of different environmental scales and how this is lined to individual responses in older age; from micro scale single scenes (colour, clutter, contrast, entropy, load), to design

built environment

Activity-friendly built environments [31]; Rural health and climate change impacts [25]

- ales and how this is lined to individual responses in older age: from micro-scale single scenes (colour, clutter, contrast, entropy, load), to design qualities of meso-scale streets and neighbourhoods (legibility, topology, connectivity, fascination, visual richness), to broader macro-scale geographical areas (nature vs urbanisation)
- Links between micro-scale (single scenes) and Preference (perceived restorativeness, aesthetic appeal) and Perceived usability (walkability, opportunities for social engagement)
- Links between macro-scale (broad areas) with perceived usability (walkability, opportunities for social engagement)

#### Activity friendly environments

- Explore challenges and opportunities of shrinking cities on active behaviours
- Explore time/place in active behaviours the way older people are exposed to/use surrounding environmental opportunities
- Identify optimal levels of environmental attributes, such as residential density and slope
- Examine disparities in the distribution of activity-friendly environmental attributes

#### Climate impacts/exposures

- Identify specific rural populations at risk, potential responses to such risk of environmental change and hazards; understand how place-level characteristics increase vulnerability or resilience
- Challenges facing resource-constrained rural communities
- Distributions of diversity and social inequality e.g. differences in older adults' life expectancy and quality of life

#### Ageing and disability

• Knowledge translation: bridging the gap between ageing and disability research to transfer existing knowledge across the ageing and disability sectors of scientific, practice and policy

#### Health-related behaviours

- How to encourage individuals to seek medical check-ups, promote modifiable health-related behaviours (social activity, exercise, healthy diets, reasonable diet supplements) (from China)
- Modern technologies to counteract the negative effects of ageing: drugs that mimic the effects of 'exercising more, eating less', molecules from molecular gerontologists to improve 'health span' in older adults (from China)

#### Assistive technologies

• Systematic review of research on assisted living and self-monitoring technology assisting remaining in own home, feeling safe and secure, and maintaining health and wellbeing

#### Sleep/Circadian rhythms

- Normal healthy ageing of sleep; how the need for sleep changes with ageing; causes of insomnia and identifying safer therapies
- Whether sleep disturbances influence the temporal progression of Alzheimer's and neurodegenerative processes
- What disparities are present in sleep and circadian disturbances in older adults, and their impacts

#### Social and spatial environments and impacts on agency

- The social distribution of health and life expectancy and disease risk, and access to social and medical services
- Norms, stereotypes and expectations about health, on healthy later life and their negotiation by people with different social, economic and ethnic backgrounds; the connection between diseases, living arrangements and institutions

# Health and Wellbeing

Bridging Ageing and Disability [32]; Healthrelated behaviours and tech [33, 34]; assistive tech [5]; Sleep [35]; Social and spatial environments – impacts on agency [34]

		<ul> <li>How people with emerging health issues live and shape their everyday life in different contexts; e.g. how people living with cognitive impairments and dementia organise themselves so that they can continue to live meaningful lives</li> </ul>
Income and	Financial security [5];	Financial security
wealth  Ageing and social structure [34] [5]; Changes to cultural family care provision practices [33]; Home visits [36]	<ul> <li>Examine how various indicators of financial security differ, impact of economic crises &amp; policy changes on the financial security of the older population (from Ireland)</li> </ul>	
	_	Ageing and social structure
		<ul> <li>Which factors impact social cohesion – considering the changes in welfare-state generations and the relationships between individuals of different generations</li> </ul>
	<ul> <li>Life-course transitions and individual development over time – new lifecourses due to ongoing societal modernization, how these changes are related to quality of later life; and how social security systems can adjust to/affect these developments</li> <li>Social, cultural and demographic change over time – e.g. changes that challenge the sustainability of societies such as population patterns, economy and labour, normative patterns, family structures and social networks</li> <li>Understand the positive ageing profile of people 80 years+ living in community &amp; barriers to positive ageing (cohort analysis)</li> </ul>	
		Family care provision
		<ul> <li>The shift from an extended family system in which the younger provide home care for their family who are older, to increasing reliance on nursing homes with younger family members moving to cities for employment (from China)</li> </ul>
		Home visits
		• Evaluations of multi-faceted interventions should include theory of change, adhere to CONSORT trial reporting guidelines and report all outcomes measured (to be able to contribute to systematic reviews)
		<ul> <li>Validate program theory models to determine what (of home visits) might be effective for certain populations and settings</li> <li>Evaluate process of home visits delivery, identify which components are most important</li> </ul>
Personal	Personal security and safety [5]	Experiences of personal security
safety and security		<ul> <li>Impact of changing neighbourhoods and individual experiences on the personal security of older people</li> </ul>
		Perceptions and experiences of crime
		Perceptions of safety and experience of crime – local data

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