

Fostering healthy aging in NORCs: A study protocol for a multiple explanatory case study

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The Issue

- ▶ Majority of older adults wish to live in the community for as long as possible (>92%)
- ▶ Nearly ¼ of older adults report feeling isolated and 29% report feeling lonely most of the time
- ▶ Loneliness and social isolation are associated with increased risk of mortality and morbidity - as strong a risk factor for premature death as smoking
- ▶ COVID-19 has underlined critical need to support older adults to age well in community

Oasis Senior Supportive Living



- ▶ Oasis Seniors Supportive Living (Oasis) model, a NORC program:
 - ▶ Developed in 2011 in partnership with Kingston Council in Aging
 - ▶ Senior driven: members direct and engage in group-based activities
 - ▶ Three pillars: social, physical and nutrition programming for healthy aging

- ▶ Oasis currently exists in 8 communities in Ontario and includes multi-building complexes (3), high (2) and low-rise (2) apartments and a mobile home community (1)
 - ▶ This study includes 7 of 8 Oasis sites in the province

Objectives

- ▶ To determine the influence of Oasis on the social networks of older adults living in NORCs
- ▶ To determine the influence of Oasis on social isolation and healthy aging including physical health, mental health and function in older adults living in NORCs
- ▶ To describe and compare the patterns of health care utilization for individuals who live in NORCs with and without Oasis
- ▶ To understand how the unique context of each NORC influences social networks and healthy aging

Study Design

- ▶ Multiple explanatory case study design (Yin, 2014) with mixed methods
- ▶ Integrated knowledge translation (IKT)
- ▶ Participants include older adults (55 years+) living in 14 NORCs
 - ▶ 7 with Oasis
 - ▶ 7 without Oasis

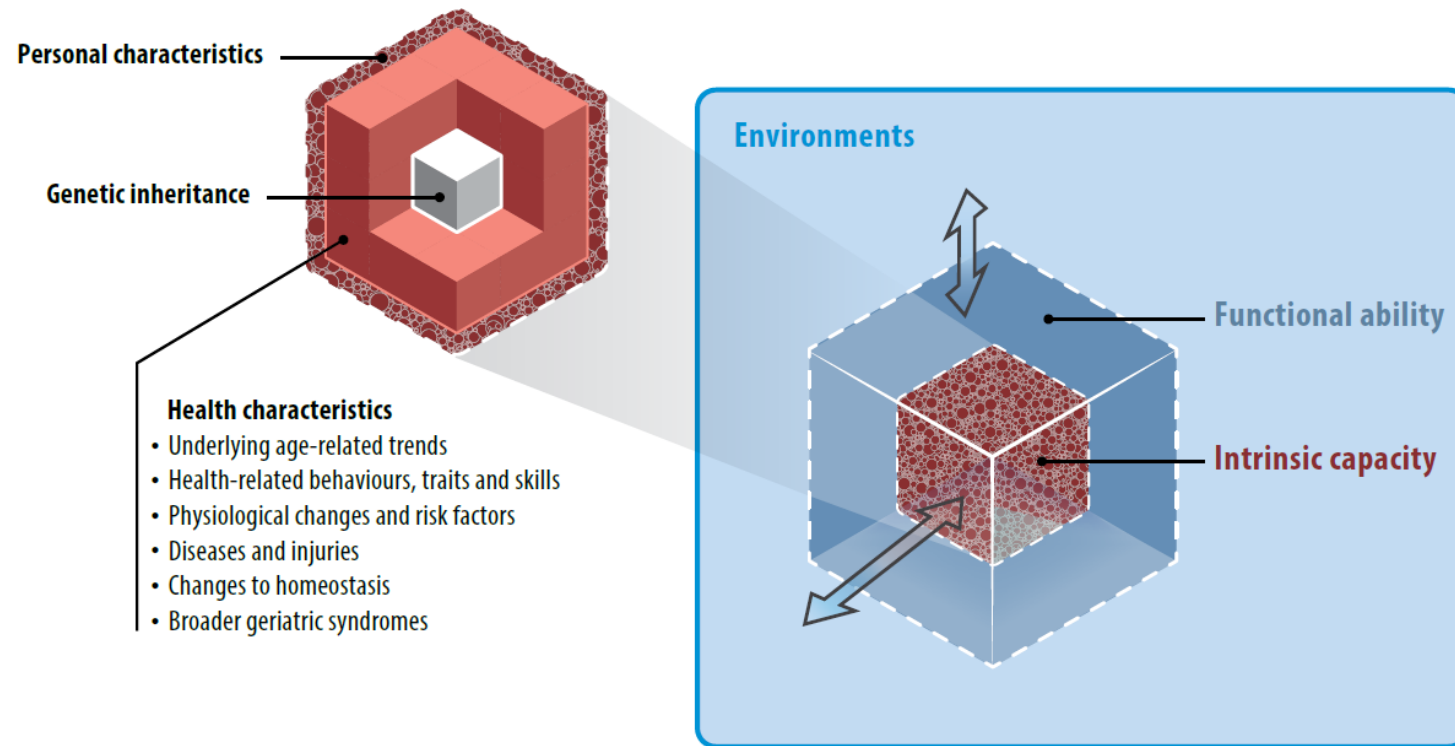
Match sites

- ▶ Informed by previous research, Census data is used to identify dissemination areas (DAs) with high proportions (>30%) of older adults in Kingston, Quinte, London and Hamilton (Stats Canada)
- ▶ Non-Oasis sites will match with Oasis sites based on:
 - ▶ Resident age
 - ▶ Marginalization index (see Matheson)
 - ▶ Size
 - ▶ Location
 - ▶ Internal and external amenities

Study Propositions

1. Attending Oasis programming will increase social connections, leading to decreased loneliness and improvements in physical and mental health and function
2. Oasis members will have unique patterns of health utilization compared to older adults living in buildings without Oasis
3. The unique contextual features will influence social networks and healthy aging in older adults in oasis and non-Oasis communities.

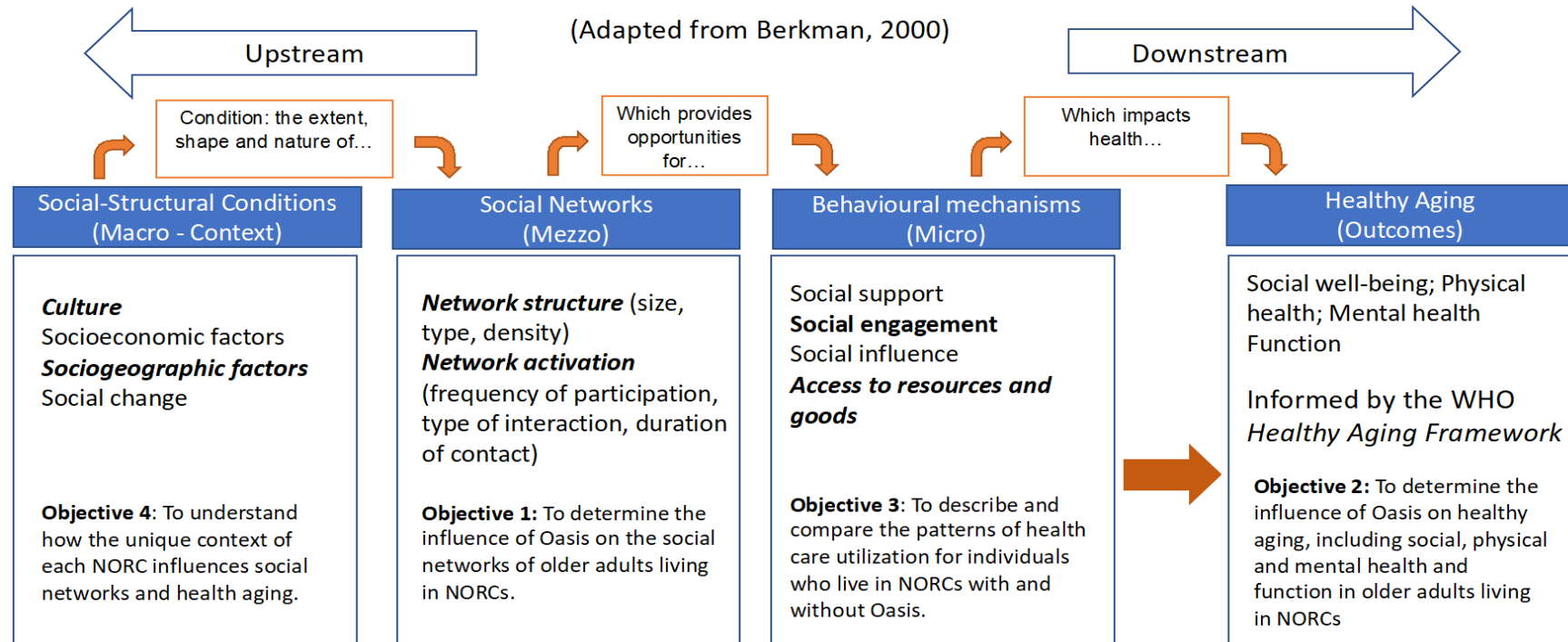
Theoretical framework 1 : WHO Healthy Aging



Theoretical framework 2: Berkman et al.

Figure 1: Conceptual Model of How Social Networks Impact Health

(Adapted from Berkman, 2000)



Objective 1 methods & Analysis

- ▶ Egocentric social network
 - ▶ focuses on individual surrounded by social contacts
- ▶ Use of personal network diagram (Antonucci, 1987; Ashida, 2008) and identify people who are important to them . Then asked questions related to
 - ▶ quality, (e.g. satisfaction on 1-5 scale)
 - ▶ function (direction of support and nature of engagement)
 - ▶ structure (age, gender, frequency of contact, geographic proximity, relationship)
- ▶ Analysis: descriptive, include calculations of total network size, , age, gender, frequency of contact; Within-NORC analysis and between-NORC analysis; Cluster analysis

Objective 2 methods & ANalysis

- ▶ Repeated measurement of social well-being, physical and mental health and function over 4 years
- ▶ Analysis: baseline descriptive statistics (means, SD, median, range, counts; t-tests, Pearson's chi-squared)
- ▶ linear mixed effects regression of UCLA-LSE and secondary outcomes
- ▶ Sensitivity analysis and power calculations

HEALTH DOMAINS	OUTCOME MEASURES
Social well-being	Loneliness - UCLA 20-item Loneliness Scale Social Connectedness - Lubben SNS
Physical health	Comfortable walking speed - 5-metre walk test Functional nutrition - Seniors in the Community Risk Evaluation for Eating and Nutrition - SCREEN Global function - Late Life Function and Disability Instrument - Function Component
Mental health	Depression - Geriatric Depression Scale
CHARACTERISTICS	DESCRIPTIVE VARIABLES
Demographics	Age, sex, gender, ethnicity, marital status, income, education level
General Health	Pre-existing health conditions (e.g. diabetes, hypertension) Overall frailty (Tilburg Frailty Indicator)

Objective 3 methods & analysis

- Comparison of Oasis sites to non-Oasis sites using IC/ES data
 - Individual matching based on demographics (e.g. age and sex) and health history (e.g. diabetes)
- IC/ES data sources include: registered persons database, postal code conversion file, Ontario Marginalization Index, Discharge Abstract Database, NACRS, Home Care, Ontario Drug Benefits

Analysis:

- summary stats and frequency distributions for ED visits, LTC admission, hospitalizations, home care and primary care
- Conditional logical regression to model risks of high ED visits and hospitalizations

Objective 4 Methods & Analysis

- ▶ Focus groups at Oasis and non-Oasis sites (Stewart et al., 2015)
 - ▶ Identify contextual factors influence program (Oasis only)
 - ▶ Qs related to social connections at building level (meso) and community (macro) - Oasis and non-oasis
- ▶ Document analysis program documents, meeting minutes, reflective notes
 - ▶ Identify and understand unique issues that arose at each site
 - ▶ Understand structures that support social programming
- ▶ Analysis: interpretive description (Thorne et al., 1997) and content analysis (Yin & Campbell, 2018) at site level and for Oasis vs. non-Oasis comparison

Impact

- ▶ First rigorous multi-site longitudinal evaluation of a NORC-based program
 - ▶ Inform the field of aging-in-place
 - ▶ Offer important information to decision and policy makers re: NORC development and sustainability
 - ▶ Increase awareness of older adults and families about NORCs as an option to age in community
 - ▶ Provide valuable data to public health authorities, HCPs, and community service organizations
 - ▶ A foundation for a pan-Canadian community or practice to support research and best practices for NORCs

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