

Rebalancing health and social care for older people: Simulating policy options for an ageing society

Hope-Selwyn Knowledge Exchange for Research on Ageing

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Whare Wānanga o Tāmaki Makaurau



Outline

- Introduction – Why this study
- Aims - What did we want to do
- Methods - How we did it
- Results – What we found
- Conclusions

Introduction: Why this study?

- Demographic ageing in NZ, like other developed countries, has greatly increased the proportion of older people in the population
- Thus major implications for provision of health and social care for older people
- Possible policy options include:
 - Promoting healthy ageing to reduce need
 - Changing the balance of care to make better use of system resources

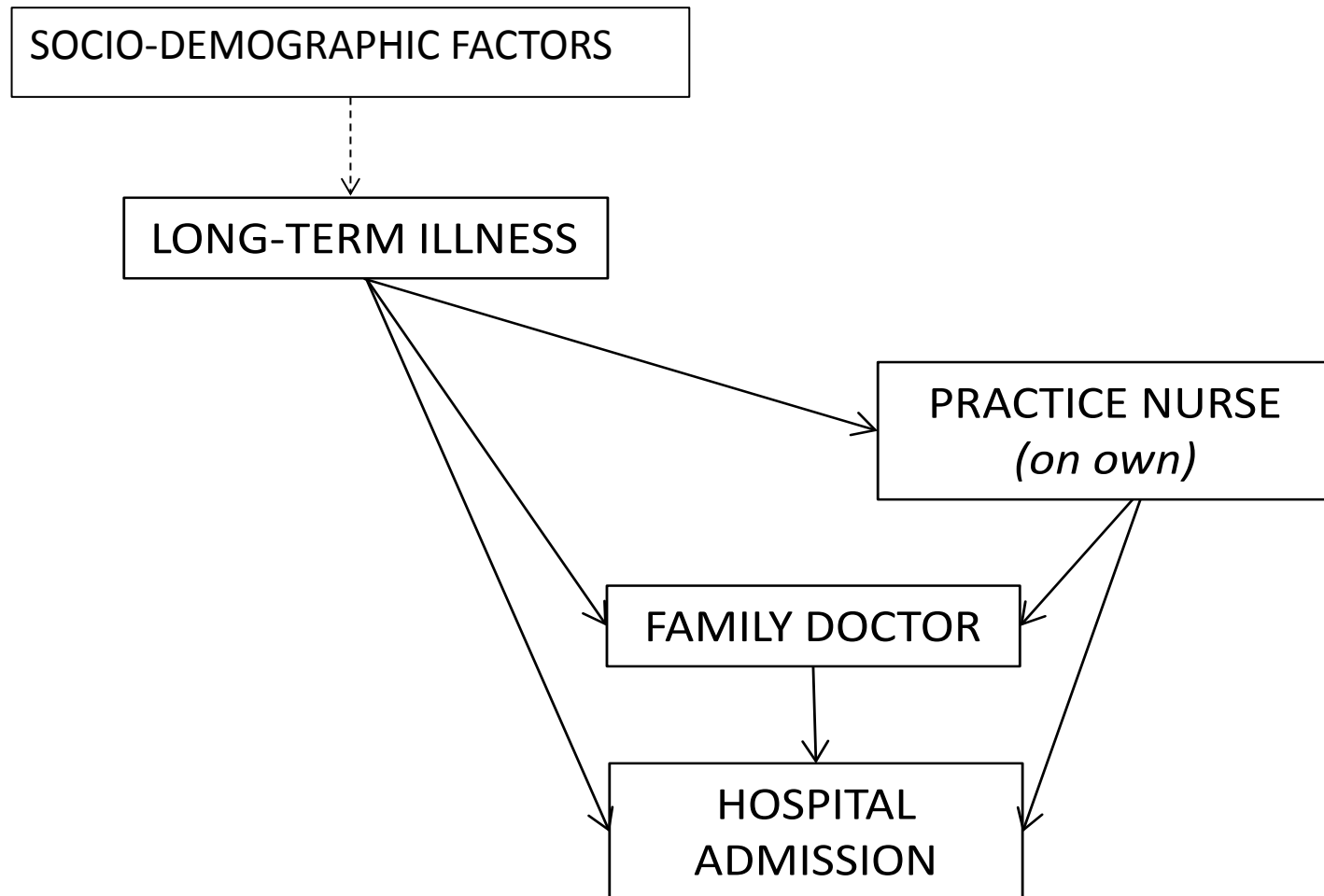
Aims: What did we want to do

- Describe the current NZ situation and project forward ('base projection')
- Then test the two possible policy options:
 - How would an intervention – whatever it is - that reduces morbidity or disability affect the use of care? ('morbidity-disability scenario')
 - How would changing the balance between different modalities affect the overall use of care? ('care scenario')
- We constructed a dynamic *micro-simulation* model of the later life course (ages 65+)
- Like a virtual lab we could use to test policy options by changing inputs or parameters and observing their effect on the overall system

Methods: How we did it

- *Micro-simulation* relies on data from the real world to create an artificial one that mimics the original
- We used data on older people from a real sample (n=2807) – NZ Health, & Disability survey series
- Each person had a set of attributes as a starting point – e.g. age, gender, health status
- Quantitative rules - derived from real data - were then applied to simulate changes in state over time
- Also adjusted for demographic changes over time
- This generated synthetic data that replicated the original data and parameter settings

Conceptual model: Late-life ageing & **health care** trajectory



Results: **Morbidity and health care** for people aged 65+ living in the community, 2001 and 2021

Simulations	Morbidity	Health care modalities		
	Long-term illness (%)	Practice nurse (on own) (%)	Family doctor 5+ visits p. yr. (%)	Public hospital admission (%)
2001				
Base status quo	85.6	42.1	36.0	18.8
2021				
Base projection	87.4	43.3	43.5	21.8
Morbidity scenario				
	5% decrease	43.2	42.9	21.4
	10% decrease	43.1	42.5	21.1
	20% decrease	43.1	41.2	20.0

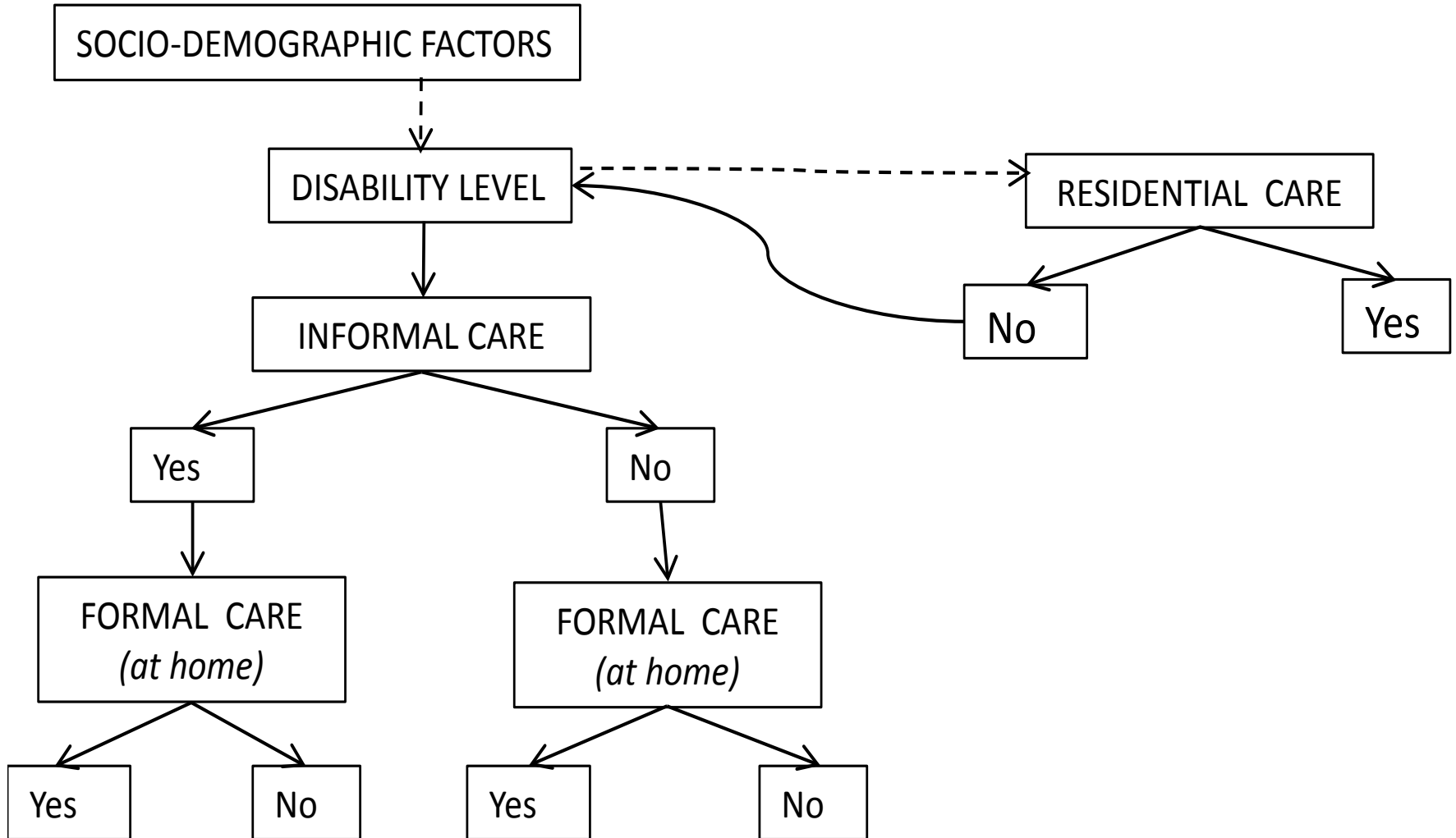
- Base projection from 2001 to 2021 shows an increase in morbidity (up 2%), family doctor visits (up 21%), and hospital admissions (up 16%)
- Scenario implemented by decreasing morbidity level (e.g. by 20%) reduced family doctor visits (by 5%), and hospital admissions (by 8%)

Results: Increasing practice nurse use for older people living in the community, 2021

Simulations	Health care modalities					
	Practice nurse (on own) (%)		Family doctor 5+ visits p. yr. (%)		Public hospital admission (%)	
	Aged 65+	Aged 85+	Aged 65+	Aged 85+	Aged 65+	Aged 85+
2021						
Base projection	43.3	42.4	43.5	48.8	21.8	23.1
Care scenario						
	5% increase		43.5	50.5	21.9	22.4
	10% increase		43.4	50.4	21.9	21.9
	20% increase		43.2	48.4	21.5	17.2
	50% increase		42.4	47.9	21.0	13.0
	All		40.6	46.0	19.8	9.3

- Scenario implemented by increasing level of practice nurse use (e.g. 85+ & 'All') reduced family doctor visits (by 6%), and hospital admissions (by 60%)

Conceptual model: Late-life ageing & **social care** trajectory



Results: **Disability and social care** for people aged 65+ living in the community, 2001 and 2021

Simulations	Disability (for all householders)	Social care modalities (for householders with some level of disability)			
		Any informal(%)		Any formal (%)	
	Moderate or severe (%)				
2001					
Base status quo	36.0	35.1		35.0	
2021					
Base projection	40.8	40.6		35.9	
Disability scenario					
	5% reduction	40.0		35.5	
	10% reduction	39.2		35.0	
	20% reduction	38.1		34.6	

- Base projection from 2001 to 2021 shows increases in disability (up 13%), informal care (up 16%), and formal care (up 3%)
- Scenario implemented by decreasing morbidity level (e.g. by 20%) reduced the use of informal care (by 6%), and formal (by 4%)

Results: Increasing informal care use for people aged 65+ living in the community, 2021

Simulations	Social care modalities (for householders with some level of disability)	
	Any informal (%)	Any formal (%)
2021		
Base projection	40.6	35.9
Care scenario		
	5% increase	35.5
	10% increase	35.5
	20% increase	35.5
	50% increase	34.8

- Scenario implemented by increasing the use of informal care (e.g. by 50%) reduced the use of formal care (by 3%)

Results: Achieving reductions in residential care for people aged 65+, 2021

Simulations	Social care modalities (for householders with some level of disability and residents)		
	Any informal (%)	Any formal (%)	Residential (%)
2001			
Base status quo	31.3	31.3	10.7
2021			
Base projection	36.1	31.9	11.0
Care scenario			
	36.1	31.9	5% reduction
	36.7	32.4	10% reduction
	36.9	32.6	20% reduction
	38.3	34.1	50% reduction

- Scenarios implemented by setting reduced levels of residential care (e.g. by 50%) show that such reductions can be achieved by moderate increases in community care – informal (by 6%) and formal (by 4%)

Conclusions

- Demographic ageing does not have a major negative impact on system resources
- The sheer volume of care required for larger numbers of older people may be alleviated by rebalancing care to make better use of finite resources, e.g. more use of practice nurses, and supported care in the community

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- **Further information**

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