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TILDA Report on Population Estimates of Physical Frailty in Ireland to Inform Demographics for Over 50s in Ireland during the COVID-19 Pandemic

tilda
Staidéar Fadaimseartha na hÉireann um Dhul in Aois

The Irish Longitudinal Study on Ageing

An Roinn Sláinte
Department of Health

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The ATLANTIC Philanthropies

Irish Life

TILDA Report on Population Estimates of Physical Frailty in Ireland to Inform Demographics for Over 50s in Ireland during the COVID-19 Pandemic

Aisling O'Halloran, Christine McGarrigle, Siobhan Scarlett, Lorna Roe,
Roman Romero-Ortuno and Rose Anne Kenny

The Irish Longitudinal Study on Ageing

On behalf of the TILDA team

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The Irish Longitudinal Study on Ageing
Trinity College Dublin
Dublin 2

Tel: +353 1 896 2509
Email: tilda@tcd.ie
Website: www.tilda.ie
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POPULATION PREVALENCE OF FRAILTY

126,100 ADULTS OVER 55 ARE LIVING WITH FRAILTY

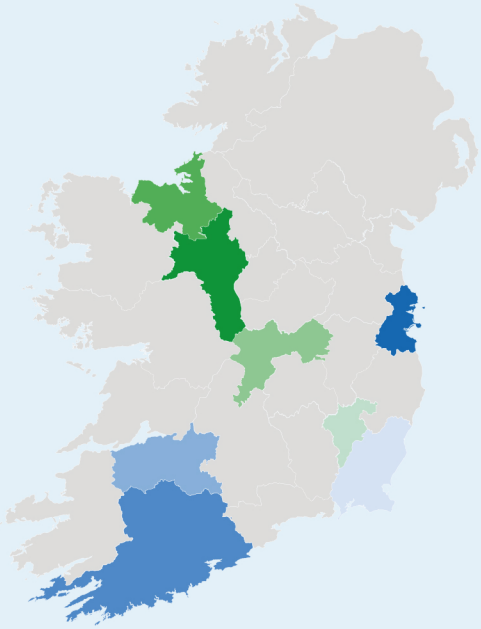
70,900 WOMEN *vs* ***55,200*** MEN

17,600 ADULTS OVER 55 ARE LIVING ALONE WITH FRAILTY

ADULTS OVER 55 LIVING WITH FRAILTY BY COUNTY

HIGHEST PREVALENCE

DUBLIN	2.4%
CORK	1.7%
LIMERICK	0.9%
WEXFORD	0.5%



LOWEST PREVALENCE

ROSCOMMON	<0.2%
SLIGO	<0.1%
OFFALY	<0.1%
CARLOW	<0.1%

LIVING WITH FRAILTY BY ACCESS TO COMMUNITY SUPPORT SERVICES*

	ADULTS OVER 55
NO FORMAL OR INFORMAL CARE	72,100
PUBLIC HOME HELP	12,500
PUBLIC PERSONAL CARE ATTENDANT	10,800
PRIVATE HOME HELP/PERSONAL CARE ATTENDANT	10,500
PUBLIC MEALS ON WHEELS	5,400
HOME CARE PACKAGE	5,000

*TILDA sampling frame does not include dementia or nursing home participants at baseline, these figures may underestimate informal care and formal community supports

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Source: The Irish Longitudinal Study on Ageing 2020

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PHYSICAL FRAILTY IN ADULTS OVER 70 IN IRELAND

POPULATION PREVALENCE OF FRAILTY

80,600 ADULTS OVER 70 ARE LIVING WITH FRAILTY

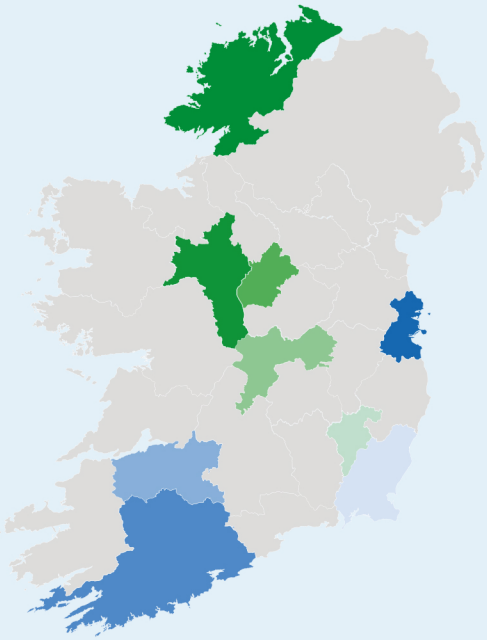
44,000 WOMEN *vs* ***36,600*** MEN

12,200 ADULTS OVER 70 ARE LIVING ALONE WITH FRAILTY

ADULTS OVER 70 LIVING WITH FRAILTY BY COUNTY

HIGHEST PREVALENCE

- DUBLIN 4.2%
- CORK 3.2%
- LIMERICK 1.2%
- WEXFORD 0.9%



LOWEST PREVALENCE

- ROSCOMMON/DONEGAL 0.2%
- LONGFORD <0.2%
- OFFALY <0.1%
- CARLOW <0.1%

LIVING WITH FRAILTY BY ACCESS TO COMMUNITY SUPPORT SERVICES*

	ADULTS OVER 70
NO FORMAL OR INFORMAL CARE	44,500
PUBLIC HOME HELP	9,600
PUBLIC PERSONAL CARE ATTENDANT	8,200
PRIVATE HOME HELP/PERSONAL CARE ATTENDANT	7,600
PUBLIC MEALS ON WHEELS	4,300
HOME CARE PACKAGE	3,600

*TILDA sampling frame does not include dementia or nursing home participants at baseline, these figures may underestimate informal care and formal community supports

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Source: The Irish Longitudinal Study on Ageing 2020

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Key Findings

- The prevalence of **physical frailty**[1] in Ireland increases with advancing age: 11% in those aged 55+; 15% in 65+; 19% in 70+; 25% in 75+; 35% in 80+ and 46% in 85+. The equivalent numbers are: 126,100 (55+); 89,500 (65+); 80,600 (70+); 63,900 (75+); 48,800 (80+); and 31,100 (85+).

- There are more women than men living with frailty: 12.3% vs. 9.7% among those aged 55+, and 20.3% vs. 17.5% among those aged 70+. Of those living with frailty in Ireland, 56.2% (70,900) aged 55+ years and 54.7% (44,000) aged 70+ years are female.

- Among those aged 55+ years, 10.8% (107,100) are living alone, of whom 16.1% (17,600) live alone with frailty. Among those aged 70+ years, 10.4% (43,400) are living alone, of whom 28.1% (12,200) live alone with frailty.

- Among those 55+, frailty as a proportion of the total population of Ireland was highest in Dublin (2.4%), Cork (1.7%), Limerick (0.9%) and Wexford (0.5%).

- Among those 70+, frailty as a proportion of the total population of Ireland was highest in Dublin (4.2%), Cork (3.2%), Limerick (1.2%) and Wexford (0.9%).

- Of the 80,600 adults aged 70+ years living with frailty:
    - 44,500 (55.2%) do not receive any form of informal care or formal community support
    - 24,800 (30.8%) receive informal care from a family member or friend
    - 26,100 (32.4%) receive formal community support services
    - 7,600 (9.4%) pay for Private home help or a personal care attendant
    - 9,600 (12.1%) receive Public home help
    - 8,200 (10.2%) receive Public personal care attendant
    - 4,300 (5.3%) receive Public meals-on-wheels
    - 3,600 (4.5%) are in receipt of a home care package

1 For the purposes of this report, frailty refers to Fried's Physical Frailty Phenotype. This is defined as 3 or more of the following: self-reported exhaustion, unexplained weight loss, weak grip strength, slow gait speed, and low physical activity. The presence of one or two criteria defines pre-frailty. For further information, see: Linda P. Fried, Catherine M. Tangen, Jeremy Walston, Anne B. Newman, Calvin Hirsch, John Gottdiener, Teresa Seeman, Russell Tracy, Willem J. Kop, Gregory Burke, Mary Ann McBurnie, Frailty in Older Adults: Evidence for a Phenotype, The Journals of Gerontology: Series A, Volume 56, Issue 3, 1 March 2001, Pages M146–M157, https://doi.org/10.1093/gerona/56.3.M146

1. Introduction

1.1 Background

Frailty is described as a distinctive health state related to the ageing process in which multiple body systems gradually lose their in-built reserves. Older adults living with frailty are at an increased risk of unpredictable deterioration in their health following exposure to insults such as COVID-19 infection (1,2). Frailty is a common condition in older adults, although it is not an inevitable part of the ageing process (3). Frailty can occur at any age but becomes more prevalent with advancing age (4). This association with increasing age has implications for Ireland in terms of the impact of COVID-19 on medically vulnerable adults aged 70 years and over. On March 28th 2020, the Irish Government implemented new HSE 'Guidance on cocooning to protect people over 70 years and those extremely medically vulnerable from COVID-19' (5). In the UK, the National Institute for Health in Care Excellence (NICE) has published rapid covid-19 guidelines for the management of patients in critical care (6). NICE says that all patients, irrespective of COVID-19 status, should on admission to hospital continue to be assessed for frailty. Patients classified as having frailty should then to be put through a process where doctors must consider if critical care is considered appropriate before proceeding. Therefore, frailty is becoming a key concept in healthcare service planning development and delivery for our ageing population (7,8), particularly during the current COVID-19 public health emergency.

Frailty is a dynamic process that changes over time and can be viewed on a continuum. An older person can transition in either direction between the different states of frailty, namely robustness, pre-frailty (an intermediate state) and frailty (9). Robust older people may have some health problems, but in general these problems are being well managed. Older people with pre-frailty are at an increased risk of adverse outcomes but are coping. Individuals living with frailty generally require some support for instrumental and/or basic activities of daily living, have increased susceptibility to infection, take longer to recover from infections and are less likely to recover to previous levels of functional independence. For older adults living with frailty, exposure to a stressor such as infection significantly increases the risk of disability, hospital admission, longer in-patient length of stay, transition to long-term care and death (10). It is highly likely that individuals living with frailty who contract COVID-19 are at greatest risk for admission to hospital, admission to critical and intensive care units and death. Identifying people living with frailty provides an opportunity to prevent this at-risk group from contracting COVID-19 in the community and proactively

to develop healthcare service planning and delivery for our medically vulnerable population aged 70+ years (11).

Although frailty is a recognisable and common phenomenon in ageing, it is difficult accurately to define and diagnose. The gold standard for the assessment and management of frailty is the Comprehensive Geriatric Assessment (CGA). CGA is a holistic and interdisciplinary assessment of an individual and has been demonstrated to reduce adverse outcomes including disability, cognitive decline, long-term residential care and death (12). However, CGA is time-consuming and must be carried out by trained clinicians, so is not feasible for rapid triage and admission in acute care settings. Despite a lack of agreement on an internationally accepted and easily administered consensus measure of frailty, several methods of screening are commonly used (13).

This report will provide an overview of the numbers of people aged 55+ and 70+ years in Ireland classified by physical frailty status (using Linda Fried's physical frailty phenotype) as captured by TILDA Wave 5 (2018) (1). The physical frailty status is classified by the presence in an individual of five criteria, namely exhaustion/fatigue, unintended weight loss, slow walking speed, muscle weakness and low levels of physical activity (8, 11).The presence of none, 1-2 and ≥3 of these criteria indicates that an individual is non-frail, pre-frail or frail respectively.

To assist with planning for COVID-19, we have analysed the following to help identify numbers from cohorts based on extant national and international data for at-risk groups such as those living with frailty and pre-frailty; those who live alone; and those who have access to community support services.

TILDA is a longitudinal study on ageing, which at Wave 1 (2009) represented 1:156 people aged 50 and older in Ireland. TILDA collects detailed subjective and objective measures of health, social circumstances and economics every two years. These interviews are delivered in participants' homes using a computer-assisted personal interview (CAPI). Core objective health measures are also collected at each wave in the home, and more detailed health assessments take place at alternate data sweeps in a health assessment centre or in the participant's home. Response rate at Wave 1 was 62%. Wave 1 commenced in 2009, Wave 5 in 2018.

1.2 Sample

All estimates are based on data from the most recent Wave 5 of TILDA (collected in 2018, n=5,147 respondents); total population estimates are based on figures collected from the most recent CSO Census 2016 data, which reported a total of 1,146,525 people over 55+

living in Ireland. It should be noted that the TILDA sampling frame does not include people with dementia at baseline or people living in nursing homes, and as such these data may slightly underestimate prevalence for the total population in Ireland. For estimates of frailty phenotype prevalence, all numbers are calculated based on the presence of the five physical frailty criteria among participants at Wave 5 (2018).

1.3 Weights

Weights were used in all cases to make estimates relevant to the general population of over 50s in Ireland. In this instance, longitudinal weights which account for participant attrition between Wave 1 and Wave 5 were used. To calculate these weights, the underlying probability of being included in the computer-assisted personal interview (CAPI) was multiplied by the reciprocal of the probability of participating in all 5 TILDA waves. This probability was calculated using a logistic regression with the following predictors: age, sex, education level, age, marital status, geographic location, smoking status, health insurance, medications, socio-economic stratum, self-rated health, disabilities, depression, employment status, cardiovascular conditions, diabetes, vision, cognitive status and whether a person has wrist or hip fractures. Please note that (i) percentages and numbers are estimates and (ii) due to the application of population weights, weighted estimates for 55+ and 70+ are not equivalent to the sum of each 5-year age group estimate.

In all cases, population numbers have been rounded to the nearest 100. Where numbers for any group are equal to ten or less, these numbers are reported as ≤10.

1.4 Analysis

The number of people aged 55+ years living with physical frailty (and pre-frailty) is reported by age group and gender. The number of people living alone by frailty status is also provided. Also included is a breakdown of frailty status by county. The data provided indicate the percentage of non-frail, pre-frail and frail for each county from TILDA 2018, as a proportion of the total population of the Republic of Ireland based on the CSO 2016 Census data for each age group. In the final section, the numbers of people in receipt of informal care (e.g. help from a spouse/partner, child, relative or other) and formal support services in the community (e.g. home help, personal care, meals-on-wheels and home care packages) are reported by frailty status at Wave 5 of the TILDA study.

In light of the new HSE 'Guidance on coccooning to protect people over 70 years and those extremely medically vulnerable from COVID-19' which came into effect from midnight on March 28th 2020, this report will also provide information in relation to frailty on adults aged 70 and over.

2. Population estimates of adults aged 55+ years in Ireland – CSO (2016) and TILDA (2018)

Table 1 provides a distribution, by 5-year age bands and gender, of the population estimates of the Republic of Ireland from CSO Census data (2016) and the corresponding distribution of TILDA participant numbers at Wave 5 (2018).

Table 1. Population estimates of adults aged 55+ years in Ireland – CSO (2016) and TILDA (2018)

	CSO 2016	TILDA 2018
Male		
55+ years	**549,393**	**2,285**
70+ years	**191,876**	**1,136**
55 - 59 years	133,858	182
60 - 64 years	118,698	503
65 - 69 years	104,961	464
70 - 74 years	79,501	419
75 - 79 years	54,117	345
80 - 84 years	35,196	223
85 years and over	23,062	149
Female		
55+ years	**597,132**	**2,862**
70+ years	**234,455**	**1,346**
55 - 59 years	136,244	308
60 - 64 years	120,158	644
65 - 69 years	106,275	564
70 - 74 years	82,771	532
75 - 79 years	61,350	353
80 - 84 years	45,841	232
85+ years	44,493	229
Total		
55+ years	**1,146,525**	**5,147**
70+ years	**426,331**	**2,482**
55 - 59 years	270,102	490
60 - 64 years	238,856	1,147
65 - 69 years	211,236	1,028
70 - 74 years	162,272	951
75 - 79 years	115,467	698
80 - 84 years	81,037	455
85+ years	67,555	378

3. Physical Frailty Estimates by Age and Sex

The prevalence, or the proportion of the community-dwelling population aged 55+ and 70+ years, by frailty status at TILDA Wave 5 and extrapolated to the population of the Republic of Ireland based on the CSO 2016 Census data for each age group, is provided in Figure 1 and Table 2. The prevalence of physical frailty increases with advancing age, from 11% in those aged 55+ years, to 15% among those aged 65+ years, to 19% among those aged 70+ years. The highest prevalence of frailty is among those aged 75+, 80+ and 85+ years at 25%, 35% and 46% respectively. The equivalent numbers are: 126,100 (55+); 89,500 (65+); 80,600 (70+); 63,900 (75+); 48,800 (80+); and 31,100 (85+). These data indicated that frailty (and pre-frailty) were common among older adults in Ireland. The 80,600 people living with frailty and aged 70+ years may require support in the community in terms of providing informal and formal community support services during the 'cocooning' period of the COVID-19 public health emergency.

The prevalence of frailty among men and women aged 55+ and 70+ years is presented in Figures 2 and 3 and Table 2. There are more women than men living with frailty in Ireland: 12.3% vs. 9.7% among those aged 55+, and 20.3% vs. 17.5% among those aged 70+. Conversely of the 126,100 living with frailty in Ireland, 56.2% (70,900) aged 55+ years and 54.7% (44,000) aged 70+ years are female. These data support the documented relationship between increasing prevalence of frailty among women compared to men and is a common finding internationally.

Figure 1. Prevalence of physical frailty in the total population aged 55+ years.

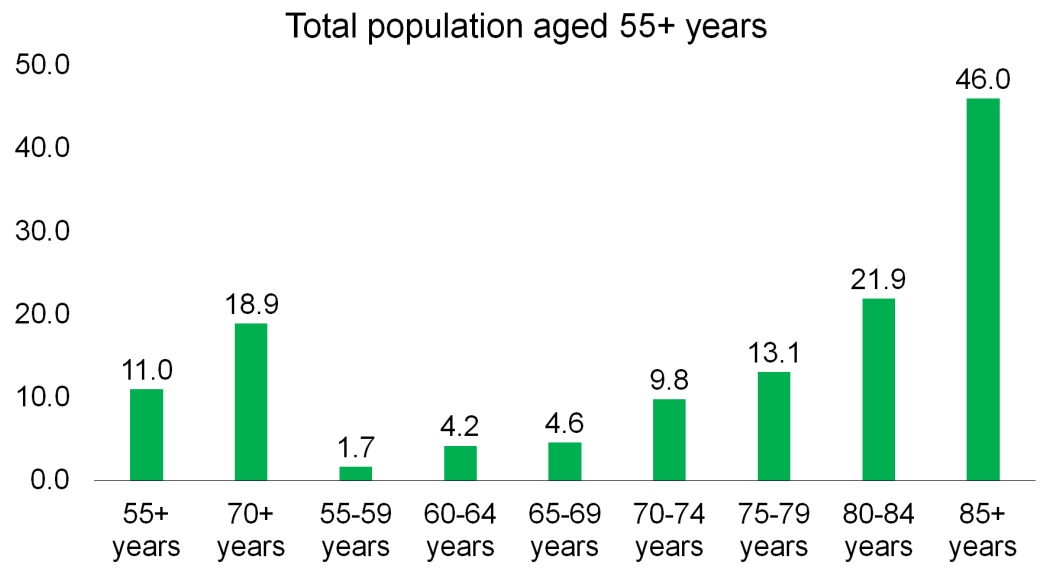

Figure 2. Prevalence of physical frailty in males aged 55+ years.

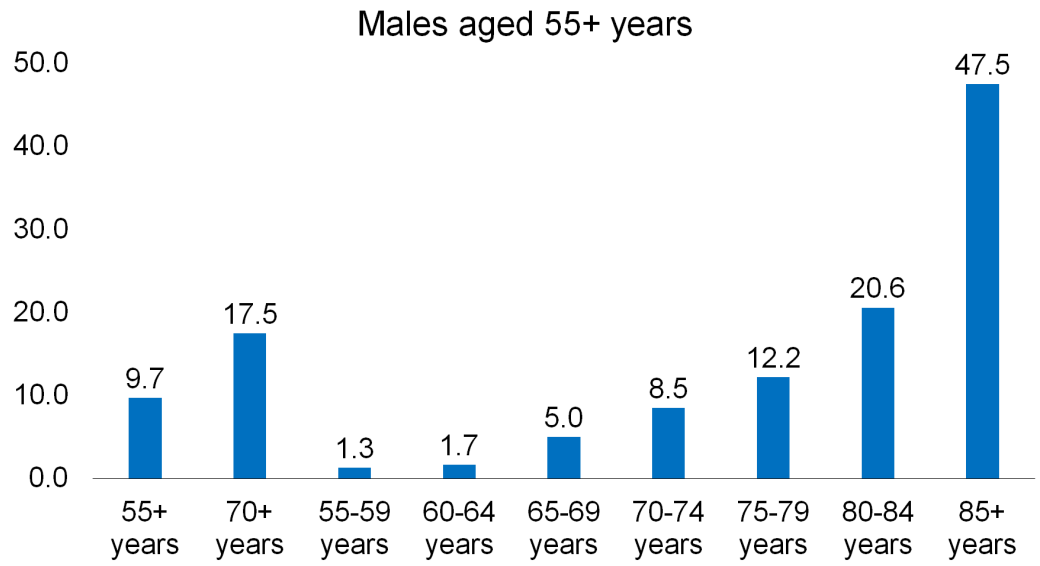

Figure 3. Prevalence of physical frailty in females aged 55+ years.

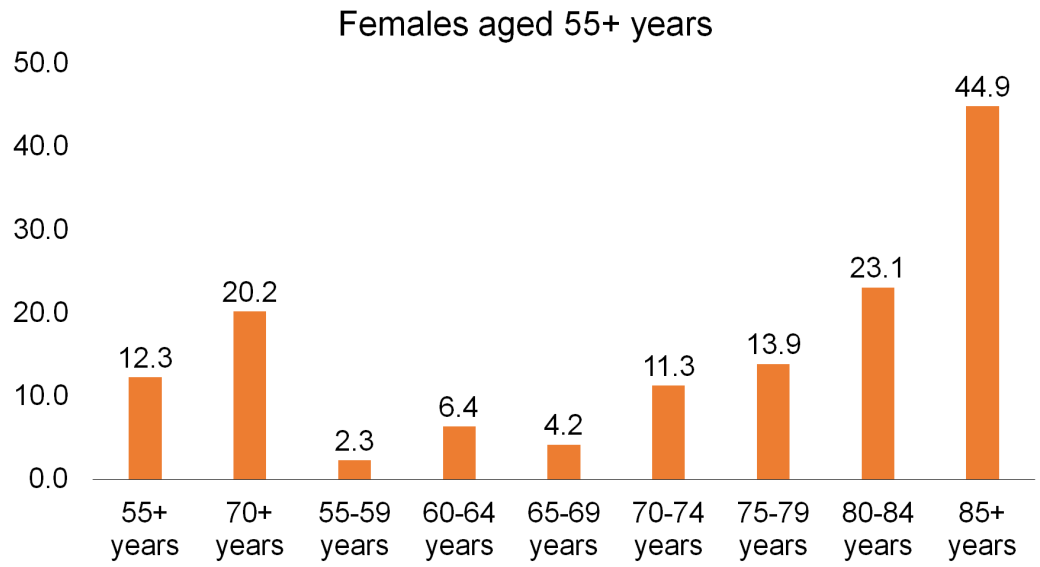

Table 2. Prevalence (%) of physical frailty in TILDA (2018) extrapolated to CSO population estimates data from 2016

Age group	TILDA (%, 2018)			CSO (n, 2016)			
	Non-frail	Pre-frail	Frail	Non-frail	Pre-frail	Frail	Total
Male							
55+ years*	**45.7**	**44.6**	**9.7**	**251,100**	**245,000**	**53,300**	**549,400**
70+ years*	**34.0**	**48.5**	**17.5**	**65,200**	**93,100**	**33,600**	**191,900**
55 - 59 years	66.6	32.1	1.3	89,100	43,000	1,700	133,800
60 - 64 years	54.9	43.4	1.7	65,200	51,500	2,000	118,700
65 - 69 years	53.0	42.0	5.0	55,600	44,100	5,200	104,900
70 - 74 years	49.3	42.2	8.5	39,200	33,500	6,800	79,500
75 - 79 years	34.4	53.4	12.2	18,600	28,900	6,600	54,100
80 - 84 years	19.5	59.9	20.6	6,900	21,100	7,300	35,300
85+ years	6.9	45.6	47.5	1,600	10,500	11,000	23,100
Female							
55+ years*	**43.2**	**44.5**	**12.3**	**258,000**	**265,700**	**73,400**	**597,100**
70+ years*	**27.5**	**52.3**	**20.2**	**64,500**	**122,600**	**47,400**	**234,500**
55 - 59 years	63.9	33.8	2.3	87,000	46,100	3,100	136,200
60 - 64 years	56.0	37.6	6.4	67,300	45,200	7,700	120,200
65 - 69 years	57.8	38.0	4.2	61,400	40,400	4,500	106,300
70 - 74 years	39.9	48.8	11.3	33,000	40,400	9,400	82,800
75 - 79 years	28.8	57.3	13.9	17,600	35,200	8,500	61,300
80 - 84 years	19.9	57.0	23.1	9,100	26,100	10,600	45,800
85+ years	6.1	49.0	44.9	2,700	21,800	20,000	44,500
Total							
55+ years*	**44.5**	**44.5**	**11.0**	**510,200**	**510,200**	**126,100**	**1,146,500**
70+ years*	**30.6**	**50.5**	**18.9**	**130,500**	**215,300**	**80,600**	**426,400**
55 - 59 years	65.5	32.8	1.7	176,900	88,600	4,600	270,100
60 - 64 years	55.4	40.4	4.2	132,300	96,500	10,000	238,800
65 - 69 years	55.4	40.0	4.6	117,000	84,500	9,700	211,200
70 - 74 years	44.7	45.5	9.8	72,500	73,900	15,900	162,300
75 - 79 years	31.6	55.3	13.1	36,500	63,900	15,100	115,500
80 - 84 years	19.7	58.4	21.9	16,000	47,300	17,700	81,000
85+ years	6.5	47.5	46.0	4,400	32,100	31,100	67,600

*Note due to the application of population weights, weighted percent and numbers for 55+ and 70+ are not equivalent to the sum of each 5-year age group.

4. Physical Frailty and Living Alone by Age

The prevalence of frailty among adults who live alone aged 55+ and 70+ years, and by 5-year age bands, are summarised in Figure 4 and Table 3. Overall, the prevalence of frailty among adults who lived alone increased with age, from 16.4% among those aged 55+ years to 28.1% among those age 70+ years. The highest prevalence was among those aged 85+ years. The equivalent numbers are: 17,500 (55+); 12,200 (70+) and 6,400 (85+). These data indicate that significant numbers of adults living on their own are also living with frailty. It is likely that those 12,200 people living alone with frailty and aged 70+ years may need to be further prioritised in terms of providing informal and formal community support services during the 'cocooning' period of the COVID-19 public health emergency.

Figure 4. Prevalence of physical frailty among those living alone in the population aged 55+ years.

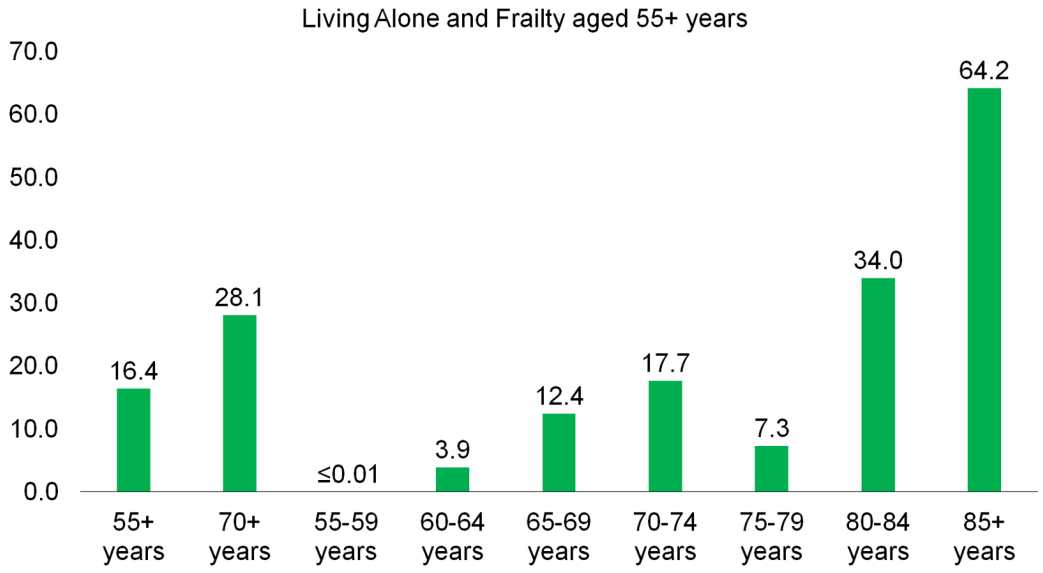

Table 3. Percentage prevalence of living alone by frailty status in TILDA (2018) extrapolated to CSO population estimate data from 2016.

	TILDA (%, 2018)			CSO (n, 2016)				
Age Group	Non-frail	Pre-frail	Frail	Non-frail	Pre-frail	Frail	Total	Total Alone
Total								
55+ years	**42.5**	**41.1**	**16.4**	**10.8**	**45,500**	**44,000**	**17,600**	107,100
70+ years	**27.6**	**44.3**	**28.1**	**10.4**	**12,000**	**19,200**	**12,200**	43,400
55 - 59 years	42.7	57.3	≤0.01	6.7	7,700	10,400	≤10	18,100
60 - 64 years	59.1	37.0	3.9	9.9	14,000	8,700	900	23,600
65 - 69 years	52.7	34.9	12.4	10.4	11,600	7,700	2,700	22,000
70 - 74 years	44.8	37.5	17.7	8.9	6,500	5,400	2,600	14,400
75 - 79 years	17.8	74.9	7.3	8.8	1,800	7,600	700	10,200
80 - 84 years	43.5	22.5	34.0	11	3,900	2,000	3,000	8,900
85+ years	3.0	32.7	64.2	14.7	300	3,200	6,400	9,900

*Note due to the application of population weights, weighted estimates for 55+ and 70+ are not equivalent to the sum of each 5-year age group estimate.

5. Physical Frailty Estimates by County

The prevalence of frailty for each county from TILDA 2018, as a proportion of the total population of the Republic of Ireland, based on the CSO 2016 Census data for the 55+ and 70+ age groups, are presented in Figures 5 and 6. The within county percentage and population estimates of those living with frailty in the 55+ and 70+ age groups are summarised in Table 4 and 5.

Among those aged 55+ years, the counties with the highest numbers living with frailty, as a proportion of the total population of Ireland, are Dublin (2.4%; 27,600), Cork (1.7%; 19,400), Limerick (0.9%; 10,500) and Wexford (0.5%; 6,000). The counties with the lowest populations living with frailty are Offaly (<0.1%; 200), Carlow (<0.1%; 900), Roscommon (<0.2%; 1,500) and Sligo (<0.2%; 1,600). See Figure 5.

Among those aged 70+ years, the counties with the highest populations living with frailty, as a proportion of the total population of Ireland, are Dublin (4.2%; 18,000), Cork (3.2%; 13,500), Limerick (1.2%; 5,300) and Wexford (0.9%; 4,000). The counties with the lowest populations living with frailty are Offaly (<0.1%; 200), Carlow (<0.1%; 300), Longford (<0.2%; 800) and Donegal and Roscommon (0.2%; 1,000). See Figure 6.

By county, the highest prevalence of frailty was in Leitrim (29.8%), Limerick (21.5%), Cavan (21.1%) and Monaghan (20.9%) among those aged 55+ years. By county, the highest prevalence of frailty was in Leitrim (48.4%), Cavan (42.1%), Monaghan (36.5%) and Limerick (29.1%) among those aged 70+ years. See Tables 4 and 5.

As expected, the counties with the largest urban population centres have the highest concentrations of frail adults. Different community support strategies may be required in urban versus rural settings to support those aged 70+ years who are cocooning and living with frailty during the COVID-19 public health emergency.

Figure 5. Prevalence of physical frailty by county in the population aged 55+ years (n=1,146,525).

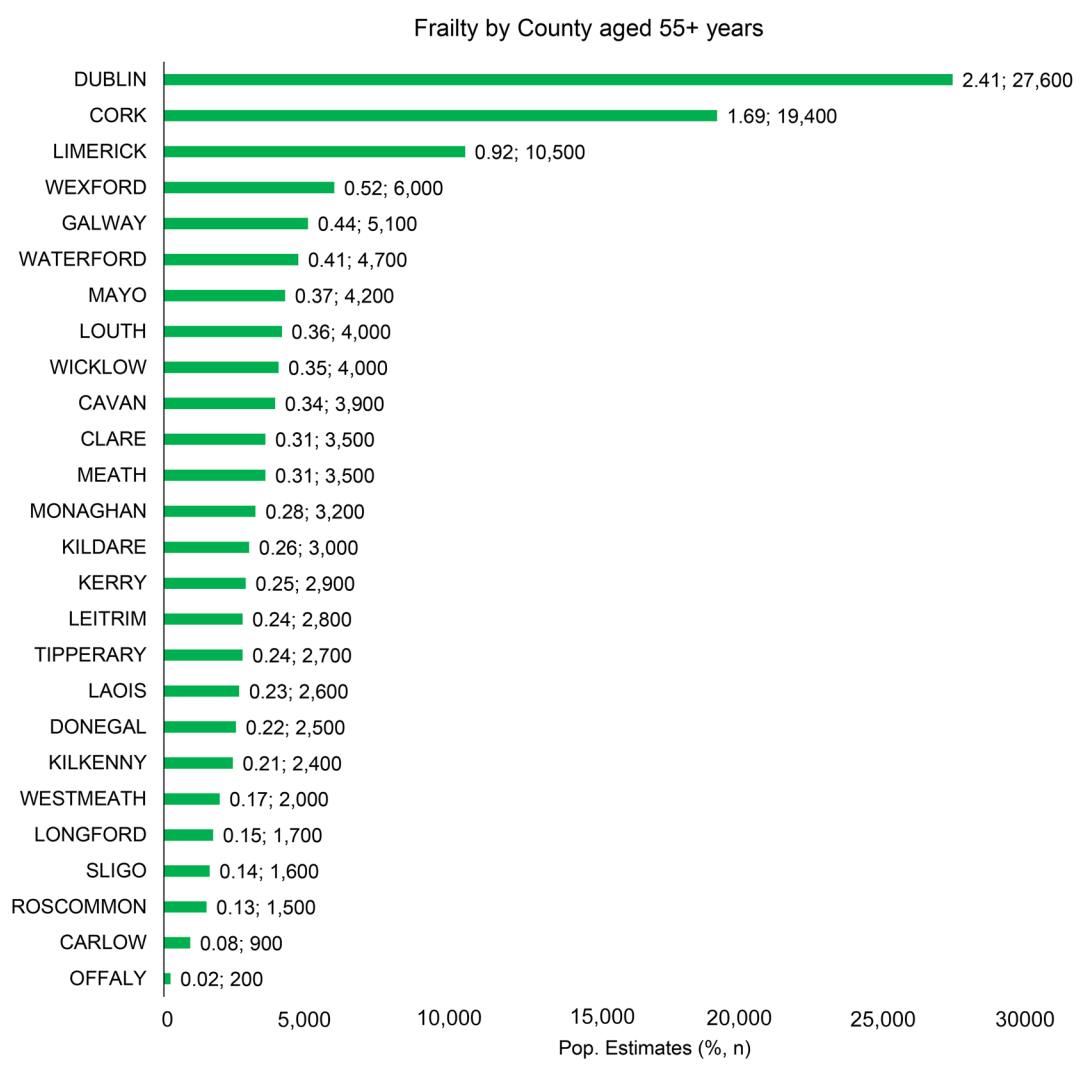

Table 4. Frailty status by county in the population aged 55+ years (n=1,146,525).

County	Population (%)	Population (N)	Non-frail %	Pre-frail %	Frail %	Non-frail N	Pre-frail N	Frail N
DUBLIN	25.82	296,000	47.10	43.58	9.32	139,400	129,000	27,600
CORK	11.51	132,100	40.16	45.14	14.70	53,100	59,600	19,400
LIMERICK	4.29	49,100	28.15	50.40	21.45	13,800	24,800	10,500
WEXFORD	3.40	39,000	25.58	58.95	15.47	10,000	23,000	6,000
GALWAY	5.48	62,900	47.97	43.97	8.06	30,200	27,600	5,100
WATERFORD	2.66	30,500	36.26	48.39	15.35	11,100	14,700	4,700
MAYO	3.47	39,800	50.13	39.41	10.47	19,900	15,700	4,200
WICKLOW	2.97	34100	45.66	42.41	11.93	15,600	14400	4100
LOUTH	2.54	29,100	44.71	41.59	13.70	13,000	12,100	4,000
CAVAN	1.64	18,800	39.81	39.08	21.11	7,500	7,400	3,900
CLARE	2.76	31,700	50.56	38.47	10.97	16,000	12,200	3,500
MEATH	3.45	39,600	45.87	45.19	8.93	18,200	17,900	3,500
MONAGHAN	1.35	15,400	21.67	57.40	20.93	3,300	8,900	3,200
KILDARE	3.79	43,400	49.25	43.84	6.91	21,400	19,000	3,000
KERRY	3.84	44,000	53.86	39.55	6.58	23,700	17,400	2,900
LEITRIM	0.83	9,500	42.71	27.54	29.76	4,100	2,600	2,800
TIPPERARY	3.76	43,200	42.13	51.52	6.35	18,300	22,200	2,700
LAOIS	1.59	18,200	55.16	30.56	14.28	10,000	5,600	2,600
DONEGAL	3.77	43,200	46.72	47.41	5.87	20,200	20,500	2,500
KILKENNY	2.22	25,400	38.07	52.36	9.57	9,700	13,300	2,400
WESTMEATH	1.82	20,900	61.06	29.26	9.68	12,800	6,100	2,000
LONGFORD	0.91	10,400	47.92	35.98	16.10	5,000	3,700	1,700
SLIGO	1.63	18,700	49.32	42.09	8.59	9,200	7,900	1,600
ROSCOMMON	1.65	18,900	37.54	54.50	7.96	7,100	10,300	1,500
CARLOW	1.17	13,500	43.15	50.61	6.24	5,800	6,800	900
OFFALY	1.67	19,100	77.01	22.17	0.82	14,700	4,200	200

Figure 6. Prevalence of physical frailty by county in the population aged 70+ years (n=426,400).

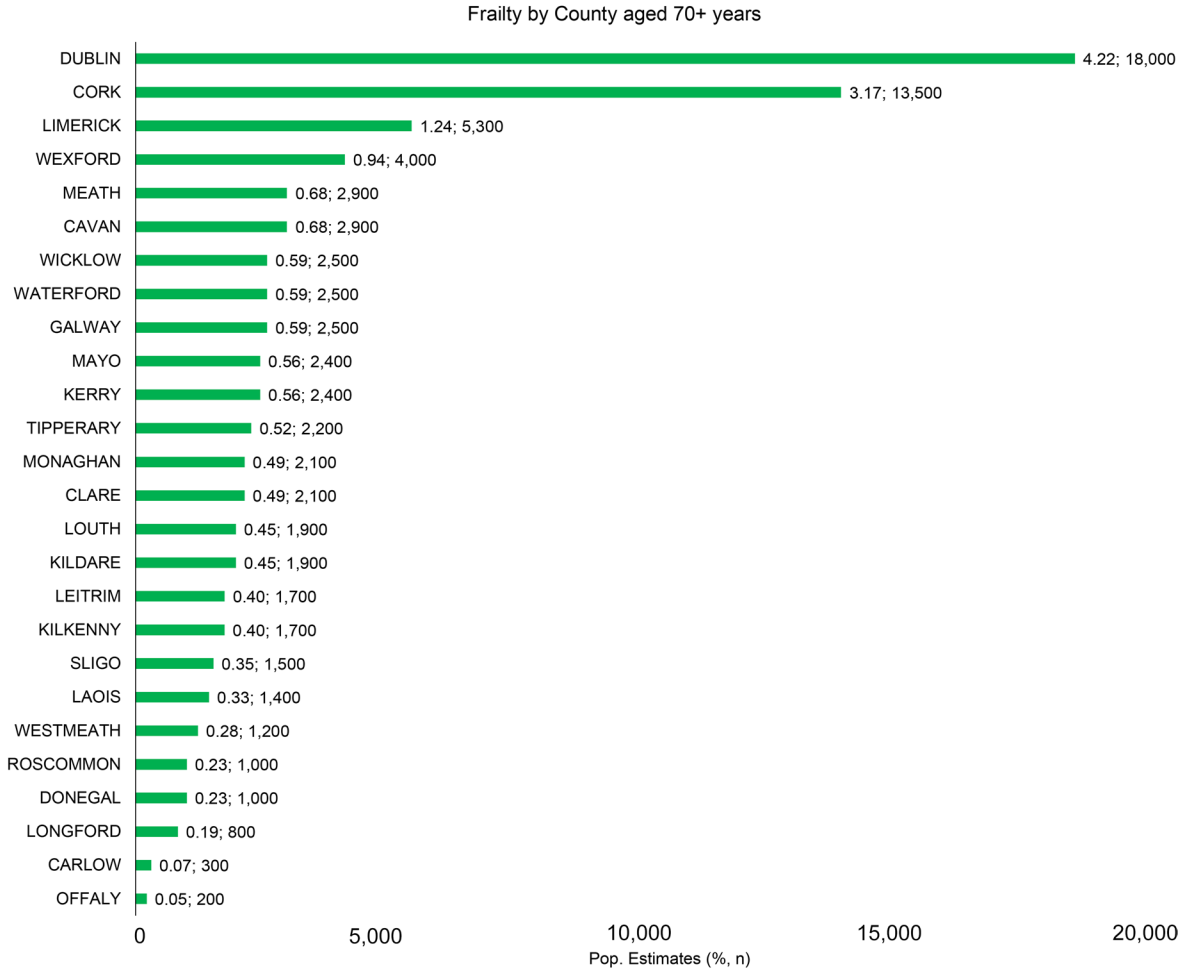

Table 5. Frailty status by county in the population aged 70+ years (n=426,331).

County	Population (%)	Population (N)	Non-frail %	Pre-frail %	Frail %	Non-frail N	Pre-frail N	Frail N
DUBLIN	26.34	112,300	32.64	51.32	16.04	36,700	57,600	18,000
CORK	11.68	49,800	30.43	42.46	27.12	15,200	21,100	13,500
LIMERICK	4.25	18,100	20.56	50.32	29.12	3,700	9,100	5,300
WEXFORD	3.45	14,700	12.59	60.17	27.24	1,900	8,800	4,000
CAVAN	1.64	7,000	35.11	22.77	42.12	2,500	1,600	2,900
MEATH	3.14	13,400	34.75	43.68	21.57	4,700	5,800	2,900
GALWAY	5.51	23,500	31.73	57.61	10.66	7,500	13,500	2,500
WATERFORD	2.74	11,700	29.68	49.26	21.06	3,500	5,700	2,500
WICKLOW	2.89	12,300	36.55	42.98	20.47	4,500	5,300	2,500
KERRY	3.87	16,500	26.80	58.55	14.65	4,400	9,700	2,400
MAYO	3.59	15,300	41.48	43.09	15.43	6,300	6,600	2,400
TIPPERARY	3.87	16,500	22.11	64.66	13.23	3,600	10,700	2,200
CLARE	2.69	11,500	34.05	47.51	18.44	3,900	5,500	2,100
MONAGHAN	1.34	5,700	19.04	44.45	36.51	1,100	2,500	2,100
KILDARE	3.21	13,700	27.31	58.93	13.76	3,700	8,100	1,900
LOUTH	2.51	10,700	27.71	54.34	17.95	3,000	5,800	1,900
KILKENNY	2.20	9,400	24.60	57.19	18.21	2,300	5,400	1,700
LEITRIM	0.87	3,700	25.79	25.85	48.36	1,000	1,000	1,700
SLIGO	1.67	7,100	22.24	56.61	21.15	1,600	4,000	1,500
LAOIS	1.50	6,400	27.69	50.53	21.79	1,800	3,200	1,400
WESTMEATH	1.78	7,600	46.87	37.06	16.07	3,600	2,800	1,200
DONEGAL	3.94	16,800	44.20	49.91	5.89	7,400	8,400	1,000
ROSCOMMON	1.74	7,400	17.10	69.73	13.16	1,300	5,100	1,000
LONGFORD	0.77	3,300	30.04	46.99	22.98	1,000	1,500	800
CARLOW	1.15	4,900	41.13	52.14	6.73	2,000	2,600	300
OFFALY	1.67	7,100	60.63	36.17	3.20	4,300	2,600	200

6. Physical Frailty by Informal Care and Formal Community Supports

The percentage and numbers of people in receipt of informal care (e.g. help from a spouse/partner, child, relative or other) and formal support services in the community (e.g. home help, personal care, meals-on-wheels and home care packages) by frailty status are reported below. The 55+ age group is summarised in Figure 7 and Table 6, and the 70+ age group is summarised in Figure 8 and Table 7.

Of the 126,100 adults aged 55+ living with frailty: 72,100 (57.2%) do not receive any form of informal care or formal community support service; 38,600 (30.6%) receive informal care from a family member or friend; and 34,700 (27.5%) receive formal community support services. Of those who received formal community support services: 12,500 (9.9%) receive public home help; 10,800 (8.6%) receive a public personal care attendant; 5,400 (4.3%) receive public meals-on-wheels; and 5,000 (4.0%) are in receipt of a home care package. Among the 55+ age group, 10,600 (8.3%) pay for private home help or a personal care attendant services.

Of the 80,600 adults aged 70+ years living with frailty: 44,500 (55.2%) do not receive any form of informal care or formal community support service; 24,800 (30.8%) receive informal care from a family member or friend and 26,100 (32.4%) receive formal community support services. Of those who received formal community support services: 9,600 (12.1%) receive public home help; 8,200 (10.2%) receive a public personal care attendant; 4,300 (5.3%) receive public meals-on-wheels and 3,600 (4.5%) are in receipt of a home care package. Among the 70+ age group, 7,600 (9.4%) pay for private home help or a personal care attendant services.

The TILDA sampling frame does not include people with dementia at baseline or people living in nursing homes, and as such these data may underestimate numbers in receipt of both informal care and formal community support services for the total population aged 55+ years in Ireland.

Despite this, it would appear that there is a significant proportion of unmet need among those living with frailty, even among the medically vulnerable group aged 70+ year who will be cocooning over coming two weeks and potentially over a longer period. This is suggested by the finding that ***over half of*** *those aged 70+ years and* ***living with frailty*** *did* not report receiving any informal care or formal support.

Figure 7. Percentage of frail people aged 55+ years in receipt of Community Supports.

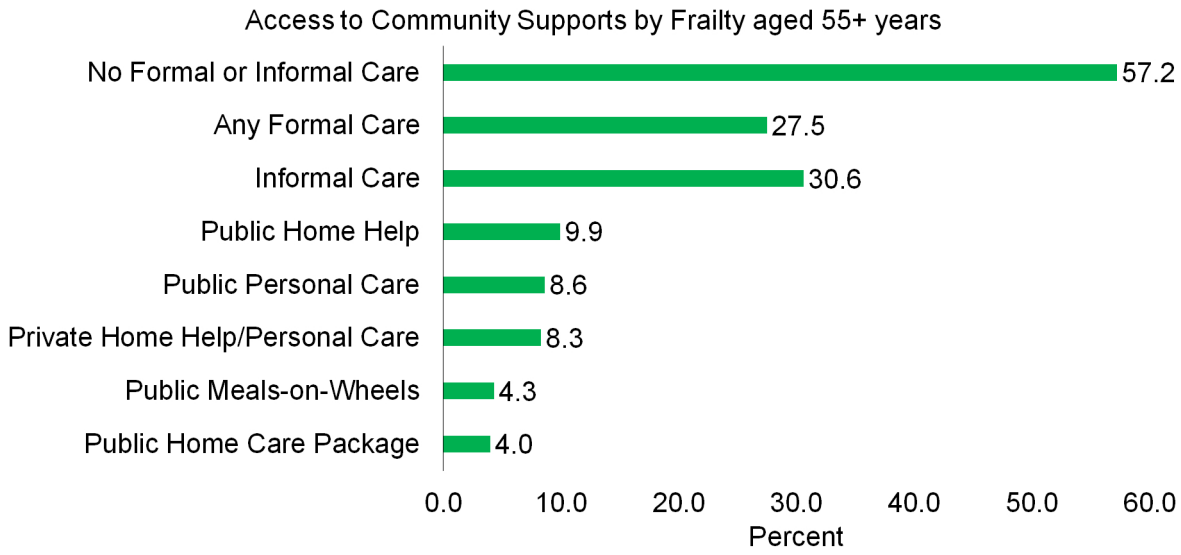

Table 6. Percent aged 55+ years living with pre-frailty and frailty in receipt of informal care and formal community supports by frailty status in TILDA (2018), extrapolated to CSO population estimates data (2016).

	TILDA (%, 2018)		CSO (n, 2016)	
	Pre-frail	Frail	Pre-frail	Frail
Population 55+ years	44.5	11.0	510,200	126,100
No Formal or Informal Care	89.7	57.2	457,700	72,100
Any Formal Care	6.5	27.5	33,200	34,700
Any Informal Care	5.5	30.63	27,800	38,600
Public Home Help	2.2	9.9	11,200	12,500
Public Personal Care	0.6	8.6	3,100	10,800
Private Home Help/Personal Care	4.0	8.3	20,400	10,500
Public Meals-on-Wheels	0.3	4.3	1,500	5,400
Public Home Care Package	≤0.01	4	≤10	5,000

* The TILDA sampling frame does not include people with dementia at baseline or people living in nursing homes and as such this data may underestimate numbers in receipt of both informal care and formal community support services for the total population aged 55+ years in Ireland.

Figure 8. Percentage of frail people aged 70+ years in receipt of Community Supports.

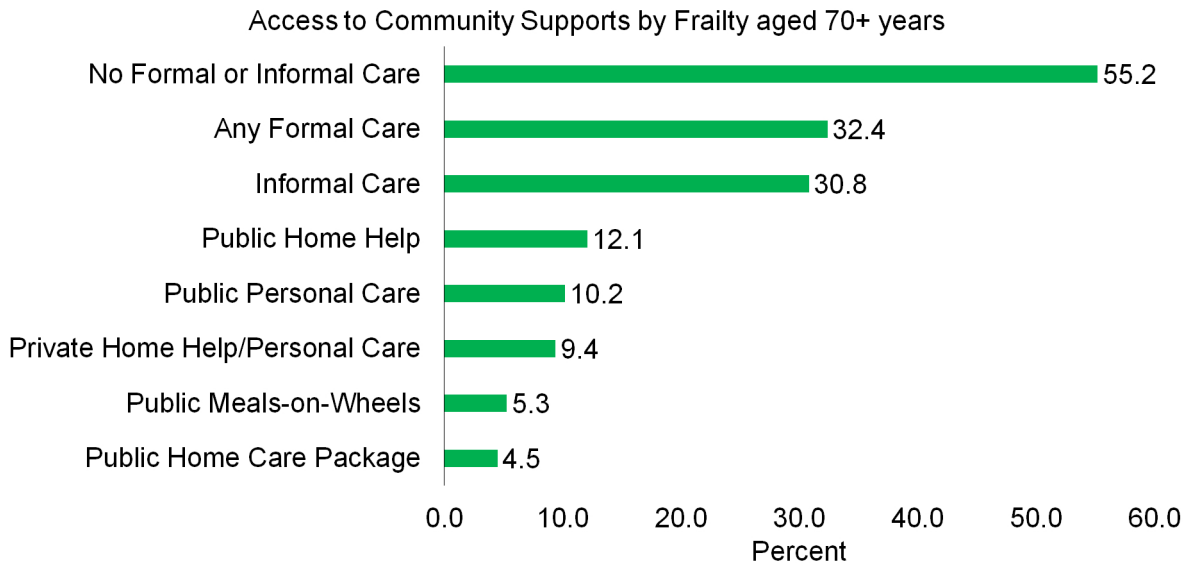

Table 7. Percent aged 70+ years living with pre-frailty and frailty in receipt of informal care and formal community supports by frailty status in TILDA (2018), extrapolated to CSO population estimates data (2016).

	TILDA (%, 2018)		CSO (n, 2016)	
	Pre-frail	Frail	Pre-frail	Frail
Population 70+ years	50.5	18.9	215,300	80,600
No Formal or Informal Care	83.7	55.2	180,200	44,500
Any Formal Care	11.7	32.4	25,200	26,100
Any Informal Care	7.5	30.8	16,100	24,800
Public Home Help	4.0	12.1	8,600	9,800
Public Personal Care	1.1	10.2	2,400	8,200
Private Home Help/Personal Care	7.4	9.4	15,900	7,600
Public Meals-on-Wheels	0.5	5.3	1,100	4,300
Public Home Care Package	≤0.01	4.5	≤10	3,600

* The TILDA sampling frame does not include people with dementia at baseline or people living in nursing homes, and as such these data may underestimate numbers in receipt of both informal care and formal community support services for the total population aged 70+ years in Ireland.

7. Conclusions

This report demonstrates that physical frailty is prevalent at 1 in 9 adults aged 55+ years in the Republic of Ireland. It is striking that almost 1 in 5 of adults aged 70+ years are living with frailty. This is the age group which is considered to be 'extremely medically vulnerable' to the adverse health impacts of contracting COVID-19, and has been advised by the Irish Government and HSE to participate in 'cocooning' during the COVID-19 public health emergency. For those over 70 years and living with frailty, the risks of contracting the infection and subsequent admission to hospital, critical/intensive care and risk of death are even greater. The data presented in this report also suggest that there is significant unmet need in relation to people living alone with frailty and the provision of informal and formal care supports in the community.

The impact of frailty on the Irish health and social care system is considerable (8) and will be greatly exacerbated by the impact of the COVID-19 pandemic. The significance of frailty as an impediment to healthy ageing was highlighted at a focus meeting on 'Frailty and Intrinsic Capacity' by the World Health Organisation (WHO) Clinical Consortium on Healthy Ageing in December 2016 (14). The significance of frailty to healthy ageing, health care planning and delivery in Ireland is recognised by the National Clinical Care Programme for Older People (NCPOP) and the Integrated Care Programme for Older People (ICPOP). A National Frailty Education Programme, in partnership with TILDA, was initiated in 2017 to train health professionals to understand the risk factors for frailty enabling them to implement programmes for early detection, prevention and management (15). In 2016, the WHO Clinical Consortium on Healthy Ageing stated that active case findings of older people with frailty is essential for the reorientation of health services to meet people's needs; proactive identification of people in the community at risk of frailty provides opportunities to intervene and so prevent or delay functional decline and disability (14). In the context of COVID-19, the proactive identification of people with frailty in the acute setting will also become an imperative when decisions in relation to transfer to resource limited critical care pathways will need to be made (5).

Frailty is not an inevitable consequence of ageing: 3 in 5 people aged 75+ and 1 in 2 people aged 85+ years are classified as robust or pre-frail. Frailty is a dynamic process, and people can experience positive transitions reverting to pre-frailty from frailty and to robustness from pre-frailty. Frailty is modifiable; it may be delayed, halted and even reversed with timely and appropriate prevention, detection and intervention strategies. 'Cocooning', though difficult, is a very real opportunity to protect medically vulnerable

adults aged 70+ years in Ireland, particularly those living with frailty who are at high risk of disability and death due to COVID-19 infection. Our people aged 70 and over are the fabric of our society (16). This report highlights the need to facilitate more informal community supports, while also proactively increasing healthcare service planning and delivery for the medically vulnerable population aged 70+ years to help them to remain safely cocooned from COVID-19.

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