6

Consequences of Care Poverty

Care poverty results from a number of different factors, many of which are permeated by social inequalities. But does care poverty actually matter? That is, does it have consequences for the everyday life of older people or for society in general? It could be that even though some older people fail to receive adequate support, this failure has little effect on their overall well-being and health. Perhaps this condition does not actually bring about any noteworthy negative implications for social and health care systems, either. If care poverty has no negative consequences for older people or society at large, it is not a major social problem after all. This would mean that it does not deserve much attention from researchers or policy-makers. So, the question of whether or not care poverty has major consequences becomes decisive. What does the evidence say?

The consequences of the unmet needs of older people are not studied in gerontology as regularly as their factors or their prevalence. Several studies have nonetheless examined the issue—once again, most often in the United States, though some research is also available from Canada, the United Kingdom, Spain, China, and Malaysia (Table 6.1). When it comes to factors that cause care poverty (Chap. 5), studies typically use a

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Table 6.1 Consequences of personal and practical care poverty

Domain of care poverty	Measurement of care poverty	Country	Study	Adverse consequences (more)	Depression (more)	Emotional well-being (lower)	Mortality (higher)	Health care use (more)	Residential care placements (more)
Personal	Relative	US	Allen and Mor (1997)	SIG	SIG			SIG	
Personal	Relative	US	Desai et al. (2001)	SIG					
Personal	Absolute	Spain	Tomás Aznar et al. (2002)		SIG[a]				
Personal	Relative	Spain	Otero et al. (2003)		SIG[a]			SIG	
Personal	Relative	US	Gaugler et al. (2005)				SIG		SIG
Personal	Relative	US	Komisar et al. (2005)	SIG					
Personal	Absolute	US	Sands et al. (2006)		NS			SIG	SIG
Personal	Relative	US	Xu et al. (2012)					SIG	
Personal	Relative	US	DePalma et al. (2013)					SIG	
Personal	Relative	US	He et al. (2015)				SIG/NS[b]		

Personal	Relative	China	Zhen et al. (2015)				SIG/NS[c]	
Practical	Relative	US	Allen and Mor (1997)	SIG	SIG			NS
Practical	Relative	Spain	Otero et al. (2003)		SIG/NS[d]			
Personal-practical	Relative	US	LaPlante et al. (2004)	SIG				
Personal-practical	Relative	Canada	Lévesque et al. (2004)			SIG		SIG/NS[e]
Personal-practical[f]	Relative	US	Li et al. (2005)			SIG[g]		SIG
Personal-practical	Absolute and relative	US	Gibson and Verma (2006)			SIG		SIG
Personal-practical	Absolute	Malaysia	Momtaz et al. (2012)					
Personal-practical[f]	Relative	US	Allen et al. (2014)	SIG				
Personal-practical	Absolute and relative	US	Freedman and Spillman (2014)	SIG				
Personal-practical	Absolute and relative	Canada	Turcotte (2014)			SIG		

(*continued*)

Table 6.1 (continued)

Domain of care poverty	Measurement of care poverty	Country	Study	Adverse consequences (more)	Depression (more)	Emotional well-being (lower)	Mortality (higher)	Health care use (more)	Residential care placements (more)
Personal-practical[f]	Absolute	UK	Dunatchik et al. (2016)			NS			
Personal-practical	Absolute	China	Hu and Wang (2019)		SIG/NS[h]				
Total[i]				**SIG**	**SIG**	**SIG**	**SIG/NS**	**SIG**	**SIG**

SIG: Significant association; NS: No significant association
[a]Significant association, but in opposite direction
[b]Significant association with one or two (but not with three or more) ADL limitations
[c]Significant association in urban areas for both 65–84 and 85+ age groups. In rural areas no significant association for the 65–84 age group; for the 85+ age group significant association, but in opposite direction
[d]Significant association with some part of the unmet IADLs ('monthly needs'), but not with other parts ('weekly needs')
[e]Significant association for emergency department visits, but not for hospital admissions
[f]Unmet needs not measured by I/ADLs
[g]Emotional strain for informal caregiver
[h]Significant association in rural areas, but not in urban areas
[i]SIG: Most analyses show a significant association. SIG/NS: Around half of the analyses show a significant association. NS: Most analyses show no significant association

roughly similar and lengthy list of variables (e.g., health status, socio-economic factors, living arrangements) in their analyses. But when it comes to research on the consequences of care poverty, studies usually focus on a limited number of issues. For example, they might concentrate on older people's depression or on their use of social and health care. Some studies use the term 'adverse consequences', which covers a number of different negative outcomes related to unmet needs.

Both the narrower focus and limited number of studies mean that there is considerably less evidence regarding the consequences of care poverty compared to its rates or factors. As a result, the studies are in this chapter presented in a way that is different from earlier chapters. Instead of organising sections mainly according to care poverty domains and measurement approaches, the chapter is structured around specific negative consequences—starting with so-called adverse consequences, continuing with other consequences to health and well-being, and concluding with consequences for the use of social and health care.

Adverse Consequences

Allen and Mor (1997, p. 1135) were among the first researchers to analyse whether unmet care needs have negative consequences, writing about 'consequences or adverse events attributable to inadequate help at home'. The authors outlined a list of potential consequences that could be caused by inadequate help with specific ADLs and IADLs, then tested whether older people (or younger, disabled people) suffered from these consequences. A number of other, mostly American researchers have later followed the same approach, shortening the term to 'adverse outcomes' or 'adverse consequences'. Concerning these outcomes of care poverty, some separation of the findings into different domains is even possible. As earlier, we begin with personal care poverty before moving to practical care poverty and socio-emotional care poverty.

Adverse Consequences of Personal Care Poverty

The pioneer study of Allen and Mor (1997) showed that people often experience several negative consequences of unmet needs (Tables 6.2 and 6.3). They found that the most common ADL-based 'adverse events' were wetting or soiling oneself (33% of people aged 65+ with need for help in the ADL), being unable to bathe as often as one would like (29%), falling (22%), and feeling uncomfortable due to being unable to go to the toilet (21%). Of personal care needs, toileting, bathing, and transferring were thus most likely to bring problems to older people. Almost all tested consequences showed a statistically significant increase among respondents with unmet needs.

Soon after, Desai et al. (2001) followed with their analysis of the 'adverse outcomes' of unmet needs among people aged 70+. Nearly half (48%) of those with unmet ADL needs reported experiencing a negative consequence. The study reported the prevalence of negative consequences among those with unmet need, while the Allen and Mor (1997) figures indicated the spread of adverse consequences across all with need. Nevertheless, toileting (51%), bathing (42%), and walking (40%) again topped the list of ADLs most likely to have adverse consequences. The study observed that, compared to those with one to two ADL-based care needs, those with three to four needs had twofold odds (OR = 2.04) of experiencing negative consequences. Meanwhile, those with five to seven needs had more than fourfold odds (OR = 4.67). Additionally, the likelihood of adverse outcomes was almost three times (OR = 2.78) greater among those whose annual income was under $20,000 compared to those with higher incomes.

LaPlante et al. (2004) examined the incidence of as many as 53 different adverse consequences of unmet needs. Interestingly, their findings also showed that according to self-reporting, the group without any unmet needs actually experienced many negative consequences. Regardless, the incidence of adverse consequences was still significantly higher among those with unmet needs. Serious consequences, such as wetting/soiling oneself (30%) or being dehydrated (12%), were also significantly more likely among those with unmet personal care needs. Living alone further increased the risk of negative consequences.

Freedman and Spillman (2014) found that one-third (32%) of community-dwelling older people with a care need experience at least one adverse consequence, which happens to be the same figure arrived at by Beach et al. (2020) in their study. Freedman and Spillman (2014) also observed that the share of older people having adverse consequences was highest among those who received formal home care (57%); compared to those who received only informal care (and those in residential care), the difference was statistically significant. Adverse consequences proved connected to most socio-demographic variables, being more common among low-income, non-married, and non-white groups of older people. For their part, Beach et al. (2020) found that older people with high care needs (having multiple chronic conditions or probable dementia, or nearing the end of life) experience adverse consequences of unmet needs more often than those whose needs are not so extensive.

'Dual eligibles', that is, low-income older people who are eligible to services from both Medicare and Medicaid, are a specific object of unmet need studies in the United States. Adverse consequences among this population have also been subject to study. Results from Komisar et al. (2005) recall the findings of the aforementioned studies on the general older population: wetting/soiling oneself (56% of those with the corresponding unmet need), falling out of bed or a chair (48%), and being unable to take a shower (42%) once again proved to be the most common adverse consequences of unmet care needs. Roughly one-quarter (23%) were unable to put on clean clothes, while nearly one-fifth (18%) went hungry. Overall, more than half (56%) of 'dual eligibles' with at least one unmet personal care need reported at least one of the five above-mentioned adverse consequences. Allen et al. (2014) likewise report that wetting/soiling oneself (43%) and being unable to move around indoors (26%) are the most typical adverse consequences. When compared to older people eligible only for Medicare, 'dual eligibles' make up a significantly higher share of people having to stay in bed and going without getting dressed.

Overall, almost all studies show wetting/soiling oneself to be the most typical adverse consequence of unmet personal care needs (Table 6.2). Negative consequences that are also very widespread include experiencing a fall or being unable to move inside, take a bath, or use the bathroom.

Table 6.2 Adverse consequences of personal care poverty

Country	Study	Age group	Wetting/ soiling oneself	Unable to use bathroom	Unable to bathe	Unable to get dressed	Went hungry	Went without clean clothes	Unable to get out of bed	Falls	Unable to move inside
US	Allen and Mor (1997)[a]	65+	33	21	29		5	7		22	5
US	Desai et al. (2001)[b]	70+		51	42	20	21				40
US	LaPlante et al. (2004)[b]	18+[c]	30	27	35	20	15	16	23	55	52
US	Komisar et al. (2005)[b, d]	67+	56/15		42/33	23/14	18/3			48/28	
US	Allen et al. (2014)[a]	65+	43		13	8	4		12		26
US	Freedman and Spillman (2014)[a]	65+	43		13	8	4		12		26
US	Beach et al. (2020)[a]	65+	8		4	3	1		5		10

[a]Share (%) of people with adverse consequence among those with care needs
[b]Share (%) of people with adverse consequence among those with unmet care needs
[c]The average age of the subsample with unmet needs was 60.4 years; it thus included many older people
[d]The first figure indicates the share (%) of people with adverse consequences among those with a related and specific unmet ADL need. The second figure indicates the share (%) of people with adverse consequences among those with any unmet ADL need

Adverse Consequences of Practical Care Poverty

Research into the adverse consequences of unmet practical care needs is very rare. No study focusing exclusively on this topic was located, but four of the aforementioned studies included IADLs in their analysis.

Allen and Mor's (1997) early study also examined unmet practical care needs to observe feeling distressed because housework was not done (31% of respondents with a care need) and being unable to go places for recreation (26%) as the most widespread IADL-based adverse consequences (Table 6.3). Thus in terms of practical care poverty, it was housekeeping and transportation in particular where failures seemed to cause negative consequences most regularly. LaPlante et al. (2004) found very similar results.

Two other analyses centred on mostly different consequences (Allen et al., 2014; Beach et al., 2020). They found that the most typical adverse consequences of practical care poverty were being unable to get out and making mistakes with medications. Being unable to go to places was also confirmed as a common negative consequence. While other consequences were more rare, a considerable group also missed doctor's appointments or went without groceries and clean laundry.

Allen and Mor (1997, p. 1144) conclude that 'both the serious and the more 'innocuous' consequences of inadequate help, such as not being able to bathe as often as one would like, having to wear dirty clothes, and living in a messy environment have serious quality-of-life implications for people with ongoing chronic conditions'. This highlights how the adverse consequences of unmet practical care needs can be equally serious as those for unmet personal care needs.

Adverse Consequences of Socio-emotional Care Poverty

Despite the massive volume of studies on loneliness among older people, the theme of adverse consequences is almost absent from this stream of literature. Recently, the term was mentioned in connection to loneliness and social isolation, but without a clear definition (Valtorta & Hanratty,

Table 6.3 Adverse consequences of practical care poverty

Country	Study	Age group	Distress of undone housework	Went without clean laundry	Went without groceries	Unable to get out	Unable to go to places due to lack of help	Made a mistake in taking medicines	Missed a doctor's appointment
US	Allen and Mor (1997)[a]	65+	31	3	7		26		12
US	LaPlante et al. (2004)[b]	18+[c]	39				22		13
US	Allen et al. (2014)[a]	65+		5	6	30	26	20	
US	Beach et al. (2020)[a]	65+		2	3	12		7	

[a] Share (%) of people with adverse consequence among those with care needs
[b] Share (%) of people with adverse consequence among those with unmet care needs
[c] The average age of the subsample with unmet needs was 60.4 years, and thus included many older people

2012; Smith & Victor, 2019). Empirical research on the issue is still at an early phase. This is actually unsurprising as in the unmet needs literature, adverse consequences specifically refer to the outcomes of lacking help with certain ADL-based (and in a few cases IADL-based) needs. For example, wetting/soiling oneself is clearly a result of inadequate help with toileting—not of inadequate socio-emotional support. The 'adverse consequence' term was thus originally created for a use that does not fit easily into research on socio-emotional deprivation. Nevertheless, some researchers such as Hwang et al. (2020), for example, have recently mentioned issues such as reduced sleep and suicide attempts as adverse consequences of social isolation and loneliness. The term 'adverse consequences' in the context of socio-emotional care poverty thus seems to refer to somewhat different content than in the case of unmet personal and practical care needs. However, this research is only emerging.

Cognitive Function and Physical Health

For the area of adverse consequences, there is more research into personal and practical care poverty than socio-emotional care poverty. Still, there are other consequences that have been examined considerably more in the context of loneliness and social isolation than of unmet personal and practical care needs (Table 6.4).

Cognitive function is one such topic: reviews confirm that loneliness and social isolation are significant risk factors for dementia and cognitive decline (Routasalo & Pitkälä, 2003; Luanaigh & Lawlor, 2008; Crewdson, 2016). Mushtaq et al. (2014) conclude that loneliness is associated with a more than twofold risk of dementia, while a meta-analysis by Kuiper et al. (2015) finds a 58% increase in the risk of dementia among lonely older people (RR = 1.58). Hawkley and Cacioppo (2010) further confirm that, left unattended to, loneliness has serious consequences for cognition. Social isolation has also been associated with weaker cognitive function late in life (Evans et al., 2019). One systematic review reports that loneliness is significantly and negatively correlated with cognitive function, but controlling for other demographic and psychosocial risk

Table 6.4 Consequences of socio-emotional care poverty[a]

Measurement of care poverty	Study	Cognitive function (poorer)	Physical health (poorer, more problems)	Depression (more)	Emotional well-being (weaker)	Mortality (higher)	Health care use (more)	Residential care placements (more)
Absolute	Ouimet et al. (2001)			SIG				
Absolute	Routasalo and Pitkälä (2003)	SIG				SIG		
Relative	Routasalo and Pitkälä (2003)	SIG	SIG			SIG	SIG	SIG
Relative	Luanaigh and Lawlor (2008)	SIG	SIG	SIG	SIG			
Relative	Hawkley and Cacioppo (2010)	SIG	SIG	SIG	SIG	SIG		
Absolute	Steptoe and Kivimäki (2013)		SIG					
Relative	Mushtaq et al. (2014)	SIG	SIG	SIG	SIG			
Relative	Boss et al. (2015)	SIG/NS						

Absolute	Holt-Lunstad et al. (2015)					SIG		
Relative	Holt-Lunstad et al. (2015)					SIG		
Absolute[c]	Choi et al. (2015)			SIG/NS	SIG/NS			
Relative[c]	Choi et al. (2015)			SIG	SIG			
Relative	Kuiper et al. (2015)	SIG						
Relative	Petitte et al. (2015)		SIG					
Relative	Crewdson (2016)	SIG	SIG	SIG				
Absolute	Valtorta et al. (2016)		SIG					
Relative	Valtorta et al. (2016)		SIG					
Absolute	Courtin and Knapp (2017)		SIG	SIG/NS		SIG/NS	SIG	

(*continued*)

Table 6.4 (continued)

Measurement of care poverty	Study	Cognitive function (poorer)	Physical health (poorer, more problems)	Depression (more)	Emotional well-being (weaker)	Mortality (higher)	Health care use (more)	Residential care placements (more)
Relative	Courtin and Knapp (2017)		SIG	SIG		SIG/NS	SIG/NS	
Absolute	Evans et al. (2019)	SIG						
Total[b]		**SIG**	**SIG**	**SIG**	**SIG**	**SIG**	**SIG**	**(SIG)**

SIG: Significant association; NS: No significant association

[a] Based on studies of loneliness and social isolation

[b] SIG: Most analyses show a significant association. SIG/NS: Around half of the analyses show a significant association. NS: Most analyses show no significant association

[c] The review speaks of 'objective social isolation' and 'subjective social isolation'. Here, the first term is understood to mean absolute socio-emotional care poverty, while the latter term refers to relative socio-emotional care poverty

factors weakens the statistical connection (Boss et al., 2015). In general, however, the evidence for loneliness as a major predictor of cognitive decline is strong.

Also more generally, health outcomes have been a major area for loneliness research. In Courtin and Knapp's (2017) scoping review, all but 2 of 128 articles found that isolation or loneliness had a detrimental effect on health of older people. Luanaigh and Lawlor (2008) conclude that loneliness has a significant impact on, for example, higher blood pressure and immune stress responses. Coronary heart disease is among the most studied consequences of loneliness and social isolation. Valtorta et al.'s (2016) review concludes that deficiencies in social relationships are associated with an increased risk of developing coronary heart disease and stroke; meta-analyses by Steptoe and Kivimäki (2013) showed a 1.5-fold risk of coronary heart disease among adults experiencing social isolation. According to Mushtaq et al.'s (2014) review, loneliness leads not only to heart disease but also to a long list of other health problems including diabetes, rheumatoid arthritis, lupus, hypertension, and cancer. A review by Petitte et al. (2015) concludes that loneliness is a significant biopsychosocial stressor prevalent in adults with heart disease, hypertension, stroke, and lung disease. Though the mechanisms through which loneliness and social isolation affect physical health are still mostly unknown, there is a large and almost unanimous evidence base showing that deprivation of social and emotional needs leads to multiple serious health outcomes.

Depression

The connections of depression not just to loneliness but also to unmet personal and practical care needs have been subject to research (Table 6.1). For instance, Allen and Mor (1997) observed higher levels of depression (MHI-5 score) among respondents who had unmet needs. For both personal and practical care needs, the difference between groups with met and unmet needs was statistically significant.

In Spain, Otero et al. (2003) found an association between unmet needs and symptoms of depression (using the CES-D scale). However,

their analyses showed that only some unmet IADL-based needs ('monthly needs', in the authors' terms) increased the odds of depression in a significant way (OR = 1.98). The odds of depression were also slightly higher (OR = 1.38) for other unmet IADL needs ('weekly needs'), but the result lacked statistical strength. In the case of unmet ADL needs ('daily needs'), it was actually people with unmet needs who had lower odds for depression (OR = 0.39). The authors discussed the unexpected latter finding by suggesting that the receipt of personal care from relatives could lead to depression. This referred to a situation in Spain in the 1990s where formal personal care was available only very rarely and informal care was the absolute mainstream for personal care. Another Spanish study from the same period found a similar result: depression was significantly lower among those with unmet personal care needs (Tomás Aznar et al., 2002).

The relationship between personal or practical care poverty and depression does not seem to be straightforward in all contexts. This is echoed in an American study that showed no significant correlation between depression and whether or not the personal care needs of older people are met (Sands et al., 2006). In China, unmet needs proved to have a significant and growing impact on depressive symptoms (using the CES-D scale) among older people in rural areas but not in urban centres (Hu & Wang, 2019).

As depression is a mental condition, its connections with social isolation and loneliness—and thus socio-emotional care poverty—have been widely examined. As such studies are numerous, it is not possible to describe the results of individual publications. Instead, this section is based on review articles and meta-analyses that summarise the findings of individual studies on the topic (Table 6.4). These sources show a close relation between depression and loneliness as well as between loneliness and social isolation. Almost without exception, the reviews and meta-analyses show a significant association between depressive symptoms and either an absolute lack or personal deprivation of social connections (Ouimet et al., 2001; Luanaigh & Lawlor, 2008; Hawkley & Cacioppo, 2010; Mushtaq et al., 2014; Choi et al., 2015; Crewdson, 2016). Hence, depression is related to both absolute and relative socio-emotional care poverty. A lone review by Courtin and Knapp (2017) raises some question marks as some of the studies included in their review failed to

identify an association between depression and social isolation. But overall, it seems clear that socio-emotional care poverty is a risk factor for depression.

Emotional Well-Being

Examinations of the negative consequences of unmet care needs have also included difficulties in emotional well-being aside from depression (Table 6.1). On the one hand and as in the case of depression, there is an extensive literature on the connections between emotional well-being and loneliness. On the other hand, however, only few studies examine emotional difficulties resulting from unmet personal or practical care needs, and the studies that exist do not distinguish between personal and practical care needs, which limits the usefulness of their results.

Two of the latter studies mentioned above come from Canada (Table 6.1). Lévesque et al. (2004) report that people with an unmet ADL or IADL need have a significantly increased likelihood of experiencing psychological distress and feeling a lack of control. This study examined unmet psychosocial needs, too, which also proved to be associated with emotional well-being. Likewise, results from Turcotte (2014) show that stress levels are significantly higher and sleep problems are more common among those with unmet personal and practical care needs. The results remained unchanged regardless of whether the absolute or relative approach was used to measure unmet needs.

In the United Kingdom, Dunatchik et al. (2016) found no clear link between unmet needs and emotional well-being. But in the United States, Gibson and Verma (2006) observed a statistically significant increase in the share of those who said they are dissatisfied in life in general (41% among people with unmet needs vs. 23% among people whose needs were met) and that their condition prevented them from 'reaching their full abilities as a person' (87% vs. 67%). When asked about having control over their lives, those with unmet needs were significantly more likely to state that they had lost control over how they spend money (43% vs. 19%), who provides services to them (32% vs. 14%), when and what they eat (31% vs. 12%), or when and where they are able to go out (45%

vs. 31%). Another American study analysed connections between unmet care needs and the emotional well-being of family carers (Li et al., 2005). The results showed that informal caregivers who reported unmet needs were more likely to experience emotional strain.

Four different research reviews focus on the connections between emotional well-being and loneliness and social isolation (Table 6.4). Along with Luanaigh and Lawlor (2008), Hawkley and Cacioppo (2010) identify a significant association between loneliness and sleep problems. Choi et al. (2015) reviewed the consequences of 'subjective social isolation' (i.e., loneliness) and 'objective social isolation', finding both associated with sleep disturbance of older adults. For their part, Mushtaq et al. (2014) highlighted how loneliness is a risk factor for suicidal ideation, parasuicide, alcoholism, or acute and chronic stress. Overall, the evidence shows that personal, practical, and socio-emotional care poverty are each linked to emotional problems.

Mortality

Death is the ultimate possible negative outcome of unmet care needs. The connection between loneliness and mortality is already studied rather widely, but there is surprisingly little research into the relationship between mortality and unmet personal or practical care needs. Only three such studies were located, two from the United States and one from China (Table 6.1).

Gaugler et al.'s (2005) 18-month follow-up study showed unmet needs (reported by family carers) as a significant predictor of mortality for older people with dementia (OR = 1.17). For their part, He et al. (2015) received partly contradictory results: unmet personal care needs were associated with an increased risk of mortality within one year for Medicare enrolees with one (HR = 1.96) or two ADL limitations (HR = 1.37), but not with three or more ADL limitations.

In China, Zhen et al. (2015) analysed whether unmet personal care needs influence the risk of mortality within three years for very old people (the mean age of the sample was 94.5 years). The results showed that older adults with unmet needs had an approximately 10% increased

mortality risk, but unmet needs predicted mortality only in urban areas. Gender was also influential, with old urban women at particular risk of increased mortality due to unmet needs.

A number of studies have analysed connections between mortality and loneliness/social isolation (Table 6.4). In a rather early review of loneliness literature, Routasalo and Pitkälä (2003) concluded that the evidence is strong for both social isolation and loneliness predicting increased mortality. This conclusion was affirmed by later reviews. According to Hawkley and Cacioppo (2010), a growing body of longitudinal research indicates that loneliness indeed predicts increased mortality. In their meta-analytic review, Holt-Lunstad et al. (2015) observed that loneliness and social isolation increase the likelihood of mortality by a respective 26% and 29%. They conclude that the risk associated with social isolation and loneliness is comparable to other well-established risk factors for mortality (e.g., physical inactivity, obesity, and substance abuse). A review by Courtin and Knapp (2017) is the only one here that reported more mixed results; the authors noted that most of the studies they reviewed found that social isolation is not an independent mortality risk factor in old age, but loneliness does predict mortality. Still, there is a general consensus among researchers that loneliness and social isolation are both connected with increased mortality.

Use of Health Care

Aside from consequences for the well-being and health of older people, researchers have also examined whether unmet care needs affect the use of health care or residential social care by older people. Outcomes for the care system have thus also been analysed in addition to outcomes for people in need of care.

Once again, Allen and Mor (1997) were the first to study the issue (Table 6.1). Their analyses identified a doubling in the likelihood of physician visits, emergency room visits, and hospitalisations among those with unmet ADL needs. However, there was no indication of a relationship between unmet IADL-based needs and health care use indicators.

This means the study connected personal care poverty, but not practical care poverty, to the increased use of health care.

Sands et al. (2006) also observed that older people without any support for their personal care needs, that is, those in absolute personal care poverty, are at an increased risk for hospital admissions. Though the difference in likelihood (OR = 1.26) was not as large as in Allen and Mor's (1997) study, it still was statistically significant. Another 12-month follow-up study showed that insufficient help for ADL needs increased the likelihood of hospitalisations by 14% (Xu et al., 2012). The same research group also observed that once older people have returned home from a recent hospitalisation, unmet personal care needs are associated with an increased probability of readmission (DePalma et al., 2013).

Furthermore, a Canadian study showed that significantly more older people with unmet personal and practical care needs visit emergency departments compared to those whose needs are met (Lévesque et al., 2004: 25.2% vs. 11.8%). Hospital admissions, too, were slightly more common among those with unmet needs (7.4% vs. 5.8%)—but this difference was not statistically significant.

Among people with unmet needs, Gibson and Verma (2006) observed statistically significant increases in the share of those saying they had put off seeking needed health care due to cost (47% vs. 28%) or they were dissatisfied with health services (26% vs. 18%). In other words, almost half of those with unmet needs delayed seeking necessary health care because they could not afford it. These results offer another perspective on the relationship between care poverty and the use of health care. While other studies connect care poverty to the increased use of health care, Gibson and Verma (2006) suggest that people with unmet needs face extra barriers in their use of health care when compared to others with care needs.

In research reviews on the consequences of loneliness and social isolation, the use of health care is rarely covered (Table 6.4). As an exception, however, Routasalo and Pitkälä's (2003) review concluded 20 years ago that increased health care use is associated with and predicted by loneliness. A more recent review by Courtin and Knapp (2017) found only three studies focused on the health care use of lonely or socially isolated older people. One of these studied dental care. Of the remaining two,

one showed that social isolation predicts re-hospitalisations. The other analysed whether loneliness predicts the number of preventive home care visits, finding dissimilar results for women and men.

Use of Residential Care

An issue rather similar to the use of health care—hospital admissions, in particular—is whether older people in care poverty are more likely to be admitted to residential long-term care. For the long-term care system, this is a major question as untimely residential care placements mean a failure of home care and bring about considerable extra costs. Unfortunately, only two studies were found to have examined this issue (Table 6.1).

The first study reports that the unmet ADL needs of people with dementia were, in an 18-month follow-up, found to be a significant predictor (OR = 1.26) of nursing home placements (Gaugler et al., 2005). The second study reports that, during a six-month period, over one-quarter (28%) of people with unmet needs were temporarily admitted to a nursing home; among those without unmet needs, the number of admissions was significantly lower (14%) (Sands et al., 2006). Also, the number of days spent in a nursing home was significantly higher among those with unmet needs.

Concerning socio-emotional care poverty, there seems to be very little research on the use of residential care. Only one of the research reviews used here mentions the connection between loneliness and the use of institutional care (Table 6.4). According to Routasalo and Pitkälä (2003), loneliness predicts nursing home admissions among older people.

Conclusions

The beginning of this chapter asked the question of whether care poverty has negative consequences for older people and society at large. Does it really matter? The answer is a firm 'yes'. According to a growing body of research evidence, unmet care needs have many kinds of unwelcome

consequences for older people's health and well-being (Table 6.5). They further lead to an increased use of social and health care. These outcomes impact not only many different areas of an older person's life, but also its end—that is, mortality. Although the number of studies on these consequences is less than the number of those analysing the rates and factors of care poverty, this body of research has recently grown and produced consistent results.

However, these studies are distributed quite unevenly across the different domains of care poverty. Due to the loneliness boom in gerontology over the last few decades, the consequences of socio-emotional care poverty are most widely studied. Studies on the consequences of unmet personal care needs are much rarer, and research into the consequences of unmet practical care needs barely exists at all. The emphasis of this research has also varied across different domains for care poverty: studies of unmet (I/)ADL needs concentrate especially on adverse consequences, while the loneliness research stream focuses primarily on psychological, physical, and cognitive consequences.

However, several consequences have been examined across different domains. Personal as well as personal-practical care poverty brings adverse consequences. In terms of depression, the evidence shows that personal care poverty and socio-emotional care poverty are clear predictors. At the same time, the results are less uniform for practical (and personal-practical) care poverty. In terms of emotional well-being, the evidence is univocal: unmet needs predict emotional difficulties regardless of care poverty domain. Increased mortality is unambiguously predicted by socio-emotional care poverty. In a few studies, it is also connected with personal care poverty. Health care use is undoubtedly increased by personal, personal-practical, and socio-emotional care poverty. Finally, the use of long-term residential care is demonstrably more frequent among those with unmet personal care needs. Unmet social and emotional needs may likewise have a similar impact.

Despite gaps in the research indicated by the empty cells in Table 6.5 and although the evidence is not fully unanimous in all cases, there is generally enough evidence to confirm that all domains of care poverty

Table 6.5 Consequences of care poverty

	Adverse consequences	Cognitive decline	Physical health problems	Depression	Emotional well-being	Mortality	Use of health care	Use of residential care
Personal care poverty	SIG			SIG		SIG/NS	SIG	SIG
Practical care poverty	(SIG)			SIG/NS			(NS)	
Personal-practical care poverty	SIG			(SIG/NS)	SIG		SIG	
Socio-emotional care poverty		SIG	SIG	SIG	SIG	SIG	SIG	(SIG)
Total	**SIG**	**SIG**	**SIG**	**SIG/NS**	**SIG**	**SIG/NS**	**SIG/NS**	**SIG**

SIG: Most studies show a significant association. SIG/NS: Around half of the studies a show significant association. NS: Most studies show no significant association

( ) This issue is reported by only one study reviewed here

have negative consequences for older people's health and well-being. Some consequences are less critical, but many of them are serious. They jeopardise the human dignity and longevity of the people who suffer them. Moreover, the negative consequences are not restricted to the individual level as they also affect the social and health care system. Care poverty leads to an increased use of health care and residential care, and thus to unnecessarily growing expenditures within these services.

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