MARCH 2021

The cost of smoking to the social care system

ash.
action on smoking and health

Contents

Case study:
Jacky and Catherine's story

Catherine, 82, started smoking at 17, in the 1950s, when smoking was a way to look older and get into dances with friends. She didn't know then that tobacco caused deadly diseases like lung cancer nor that it killed half of all smokers.

Since then, Catherine had been struggling with the debilitating sicknesses caused by her smoking for more than ten years, including Chronic Obstructive Pulmonary Disease (COPD), emphysema and bronchiectasis and was dependent upon an oxygen tank. Her daughter and carer, Jacky, convinced her mother to quit smoking when she had children.

Jacky said: "I told my mum that she wasn't allowed to smoke around my daughter – and if she wanted to babysit, she would have to give up. Luckily, she knew I was serious and quit."

But Catherine's health had already started to worsen. Around age 40 she developed rheumatoid arthritis, then pneumonia, then COPD and other complications – all linked to smoking. She was constantly breathless and couldn't do simple tasks like carrying shopping bags or getting around the house. She was admitted to hospital multiple times a year and permanently used a nebuliser to give her the medication needed to keep her breathing.

Her daughter Jacky had to first go part-time at work, and then give up work completely to care for her mum. She supported Catherine for over a decade. Seven years ago, Catherine was given 6-months to live. Very sadly, last October, Catherine passed away.

Jacky says: "When I think of the impact of smoking on my mum's life, and on mine, I'm angry and sad. Everything is harder because my mum smoked. I couldn't go back to work while bringing up my family because of the amount of time it takes looking after my mum. Now that we know what smoking does to people, I can't understand why anyone would start to smoke now. It's a waste of money and of your health."

Summary

Between 2019 and 2020, smoking killed 74,600 people in England alone.[1] However, for every person killed by smoking, at least another 30 live with a serious smoking-related illness.[2] Many people who develop a smoking-related illness will be severely impaired in their ability to perform routine activities, eventually requiring social care services to support them through their daily lives.

This report sets out the impact of smoking-related illness on social care need and the resulting costs in England, building on previous reports published by ASH in 2014, 2017 and 2019.

To measure the impact of smoking on the need for social care, ASH commissioned Landman Economics to update previous analysis of the costs of social care in 2014, 2017 and 2019 by undertaking a multi-wave analysis of the English Longitudinal Study of Ageing (ELSA) and the Health Survey for England (HSE). Full research and analysis details are included in the accompanying technical report by Landman Economics: *The costs of smoking to the social care system and related costs for older people in England: 2021 revision*.[3]

Key findings

Smoking and social care need

- Over one and a half million people in England (1,647,500) require social care support as a result of smoking
- Controlling for other factors, current smokers are over 2.5 times more likely to receive social care support in their home than never-smokers, while ex-smokers are just over 1.5 times more likely to receive care in their home
- On average, smokers report difficulty completing tasks 7 years earlier than never smokers and receive care support 10 years earlier than never smokers
- Smokers and ex-smokers receive more hours of care than never smokers. On average, never smokers in receipt of social care support receive 5 hours of paid-for care each week whilst people who need care and currently smoke or quit less than 10 years ago receive 18 hours of paid-for care each week, 3.6 times as many hours

The cost of smoking to the social care system

- Current smokers and ex-smokers who quit less than 10 years ago are twice as likely to receive local authority funded social care than never smokers
- Every year, local authorities in England spend £1.2 billion on home and residential social care support caused by smoking, equivalent to 8% of all local authority spending on home and residential social care support for adults in England
- Smoking is estimated to cost the NHS £2.5 billion every year, equivalent to 2% of the health service's budget. Whilst the absolute cost of smoking to the social care system is around half this (£1.2 billion), due to the NHS budget being much larger than the social care budget, the financial impact of smoking on social care is 4 times greater than the impact on the NHS.
- If all care which is currently provided by partners, relatives, friends and neighbours was replaced with formal paid care, it would cost an additional £8.16 billion every year
- Providing support to people who currently have unmet social care needs caused by smoking would cost an additional £5.91 billion every year

Implications

This analysis sheds light on how smoking drives social care demand and lays bare the cost of meeting it. Over 1.5 million people in England need social care support as a result of smoking and spending on smoking caused social care takes a significant toll on already overstretched council budgets. These findings therefore reassert the case for comprehensively addressing smoking, illustrating that benefits are accrued not only in improvements to the population's health, reductions in inequalities and eased pressure on the NHS, but also in reduced pressure on social care services funded and delivered by local government and in delivering sustainability for the future.

Research summary

This report is accompanied by a technical report by Landman Economics *The costs of smoking to the social care system and related costs for older people in England: 2021 revision* which sets out the methodology and results in more detail.[3]

The research on which this report is based uses data on smoking status and receipt of social care services from two English datasets: the English Longitudinal Study of Ageing (ELSA) and the Health Survey for England (HSE) to estimate the rate at which smokers and ex-smokers aged over 50 (in the ELSA data) and over 65 (in the HSE data) receive care in their home (domiciliary care) and residential social care compared with people who have never smoked.

This information is combined with data on social care unit costs from the National Audit Office and NHS Digital to estimate a number of results:

- the proportion of public expenditure on social care which is attributable to smoking (using ELSA);
- the additional burden on unpaid carers due to greater care needs for smokers relative to non-smokers (using ELSA);
- the implicit additional costs of greater unmet care needs for smokers compared to non-smokers (using HSE).

A panel logistic (random effects) regression specification is used with the ELSA data for Waves 7,8 and 9 to model social care use and several other variables relating to social care use, controlling for other factors which might affect social care use (such as age, gender, family composition and health status).

For the regression analysis of unmet need in the HSE data, a cross-sectional logistic regression specification is used with several pooled waves of the HSE sample. These methods are essentially extensions of the methodology used to estimate costs of smoking to the NHS in England by Callum, Boyle and Sandford (2010), updated by Public Health England for the Department for Health and Social Care's 2017 Tobacco Control Plan for England.[4]

This research is funded by the Department for Health and Social Care.

How does smoking impact a person's chances of needing social care?

Smoking harms nearly every organ in the body and the range of diseases and disorders it causes crosses almost all areas of medicine. Long-term smokers die on average 10 years earlier,[5] but before this many will spend years in poor health living with a serious smoking-related illness.

Overall, our analysis finds that smoking greatly increases a person's chances of needing social care support. Over one and a half million people in England (1,647,500) require care support as a result of smoking. Of these:

- **85,000** people are receiving local authority funded care in their home
- **17,500** people are receiving local authority funded care in a residential care home
- **1,095,000** people are receiving care from informal sources, such as relatives and friends
- **450,000** people currently need social care support but receive none

This differs from the estimate previously provided in the last version of this report in 2019, where 25,000 people were estimated to be receiving local authority funded care in their home and 300,000 people were estimated to have unmet social care needs. These differences are the result of an improved, methodology used in this year's report, which more accurately captures the number of hours of care someone receives in the home, among other improvements. This is discussed more below and in full detail in the accompanying technical report.[3] If the improved methodology had been used in 2019 it would have shown that 95,000 people received local authority funded care in their home. The difference with the 2021 findings can be explained by fewer people smoking over time.

Table 1 below sets out the proportion of adults aged 50 or over receiving help with at least one activity according to smoking status. Ex-smokers who quit less than 10 years ago are more likely to require support than current smokers, ex-smokers who quit more than 10 years before the survey and those who have never smoked. This could be because people who smoke and then start receiving care are more likely to quit, thereby moving people who would otherwise be classified as 'Current smokers' into the 'Quit less than 10 year ago' group.

In any case, Table 1 demonstrates the substantial impact smoking has on health and the likelihood of developing care needs, with all ex-smokers and current smokers being substantially more likely to need social care support than never smokers. Around 1 in 5 current smokers and 1 in 4 recent ex-smokers aged over 50 years old need social care support, compared to 1 in 8 never smokers aged over 50 years old.

Table 1. Proportion of respondents aged 50 or over receiving help with at least one care need from different sources

	Never smokers	Ex-smokers:		Current smokers
		Quit more than 10 years ago	Quit less than 10 years ago	
Proportion needing support with one of more activity, from any source	13.4%	19.5%	23.8%	19.4%

Table 2 below sets out the median age at which someone (a) experiences difficulty independently completing everyday tasks and (b) receives care support with everyday tasks, broken down by smoking status. As Table 2 demonstrates, on average current smokers experience difficulty with everyday tasks 7 years earlier than never smokers and receive support 10 years earlier than never smokers. In fact, smokers are still working age, on average, when they require help with everyday tasks.

It was unclear from the analysis why ex-smokers who quit more than 10 years ago experience difficulty with tasks and receive support at an older median age than never smokers, as shown in Table 2. One plausible explanation could be that early quitters may be more likely to be healthy in other ways, but ultimately this topic requires further research.

Table 2. Median age for experiencing difficulties and receiving help with everyday tasks, by smoking status

	Never smokers	Ex-smokers:		Current smokers
		Quit more than 10 years ago	Quit less than 10 years ago	
Median age for experiencing difficulty with everyday tasks	70	75	70	63
Median age for receiving support with everyday tasks	73	77	72	63

Overall, the analysis found that, controlling for other factors,[i] current smokers and ex-smokers who quit less than 10 years ago are just over 2.5 times more likely to receive any form of help in their home than never smokers, whilst ex-smokers who quit more than 10 years ago are 1.5 times more likely to receive help in their home.

i. Age, gender, household composition, ethnicity, income, housing tenure, health status

How does smoking affect the type of care needed?

In addition to increasing a person's likelihood of needing social care support, smoking shapes the type of care a person requires.

People who smoke and recent ex-smokers are more likely to need all forms of social care compared to never smokers. Controlling for other factors:

- Current smokers and ex-smokers who quit less than 10 years ago are 2.7 times more likely to receive social care support provided informally by a relative, friend or neighbour and ex-smokers who quit more than 10 years ago are 1.5 times more likely to, compared with never smokers
- Current smokers and ex-smokers who quit less than 10 years ago are over 2 times more likely to receive local authority funded social care support in the home than never smokers

Informal care and smoking

As set out above, findings from this analysis reveal that 1,095,000 people in England are receiving care from informal sources, such as a relative or friend. The fact that smokers develop care needs and receive care at a younger average age than never smokers (as set out in Table 2 above) may partly explain the significantly increased likelihood of smokers receiving care from relatives and friends, as they may be more likely to have people in their lives able to play that role.

Table 3 below sets out in more detail the proportion of people aged 50 or over receiving care from different informal sources, broken down by smoking status. Across all informal sources, current smokers and ex-smokers were more likely to receive care than never smokers.

Table 3. Proportion of respondents aged 50 or over receiving help with at least one care need from informal sources

Source	Never smokers	Ex-smokers:		Current smokers
		10+ years	<10 years	
Spouse/partner	5.9%	9.9%	12.8%	8.3%
Other relatives	6.7%	9.3%	14.3%	9.0%
Friends/neighbours	1.9%	2.2%	1.9%	4.6%
Any informal help	12.0%	17.6%	22.6%	17.9%

Local authority funded care and smoking

As set out above, current smokers and ex-smokers who quit less than 10 years ago are over 2 times more likely to receive local authority funded social care support in the home than never smokers.

In addition, current smokers and ex-smokers who quit less than 10 years ago are also over 2.3 times

more likely to receive local authority funded residential care than never smokers.

This is the first time our analysis has found a statistically significant impact from smoking on residential care (i.e. being in a residential care home, as opposed to receiving care in a person's own home). This may be because, although smokers are more likely to require social care than never-smokers, they are also more likely to die before reaching the age at which people are likely to enter residential care homes. There are also a relatively small number of people entering residential care homes in the ELSA data on which the analysis is based, making it more difficult to find a statistically significant result.

Intensity of care and smoking

Smoking increases not only the likelihood of receiving care but also the amount of social care support needed.

Table 4 below shows the mean number of hours of care received per week for those aged 50. The number of informal care hours received remains fairly stable, though current smokers and ex-smokers who quit less than 10 years ago receive 3 more hours of care per week, on average, than ex-smokers who quit more than 10 years ago and never smokers.

However, when comparing formal care, on average per week current smokers and ex-smokers who quit less than 10 years ago receive 3.6 times as many hours as never smokers and 4.5 times as many hours as ex-smokers who quit more than 10 years ago.

Table 4. Mean weekly hours of care received for those aged 50 or over receiving at least one hour of care per week, by smoking status

Mean hours of care for sample members who receive at least one hour of care per week	Never smokers	Ex-smokers (quit more than 10 years ago)	Current smokers plus ex-smokers who quit less than 10 years ago
Formal care	5	4	18
Informal care	24	23	27

This could indicate that smokers and ex-smokers who quit less than 10 years ago have the types of conditions that require more intensive support, for example help with getting up, dressing and washing.

Whilst current smokers and ex-smokers who quit less than 10 years ago are more likely to need support with all activities than never smokers,[3] they are particularly likely to need support with relatively time consuming, fundamental activities. For example, controlling for age and gender, analysis of the ELSA data shows that current smokers and ex-smokers who quit less than 10 years ago are 2 times more likely than never smokers to require help with dressing and undressing, 2.4 times more likely to require help with having a bath/shower and just over 2 times more likely to require help with getting in and out of bed.

Unmet need and smoking

As set out above, this analysis reveals that 450,000 people in England currently need social care support but receive none.

Table 5 below sets out the proportion of people aged 65 and over who currently have unmet care needs, broken down by smoking status. The table looks at the proportion needing help with Activities of Daily Living (ADLs) and Instrumental Activities of Daily Living (IADLs). ADLS are basic activities performed by individuals on a daily basis that are necessary for independent living at home or in the community (e.g. getting in and out of bed, using the toilet). IADLs are actions that are important to being able to live independently, but are not necessarily required activities on a daily basis (e.g. doing housework, paying bills).

Across ADLs, IADLs and overall current smokers are substantially more likely to have unmet need than both ex-smokers and never smokers.

Table 5. Proportion of people 65 and over with unmet care needs, HSE 2018

	Never smokers	Ex-smokers:		Current smokers
		10+ years	<10 years	
Any unmet ADL	20.9%	25.6%	27.7%	32.4%
Any unmet IADL	12.7%	12.6%	13.9%	21.8%
Any unmet need	24.2%	27.7%	31.6%	38.8%

Controlling for age and gender, current smokers and recent ex-smokers who quit less than 10 years ago are over 2.5 times more likely to have unmet care needs than never smokers, whilst ex-smokers who quit more than 10 years ago are around 1.3 times more likely to have unmet care needs.

How much does smoking cost the social care system?

The additional social care needed across England as a direct result of smoking has a high financial cost.

Table 6. Estimated annual cost of smoking to the social care system in England

	Cost
Costs to local authorities	
Domiciliary social care	£625 million
Residential social care	£565 million
Total cost to local authorities	**£1.2 billion**
Implicit cost of replacing informal and unmet care	
Informal care (if met by paid-for carers)	£8.16 billion
Unmet care (if met by paid-for carers)	£5.91 billion
Total cost of replacing informal and unmet care	**£14.07 billion**

The cost to local authorities is particularly striking. The £1.2 billion annual cost of providing social care to people as a result of smoking accounts for 8% of all local authority spending on home and residential social care for adults in England. Although this is around half the total cost of smoking to the NHS (estimated to be £2.5 billion annually), because the NHS budget is much larger than the social care budget smoking accounts for a smaller overall proportion of NHS spending (around 2%), meaning the overall impact smoking has on social care finances is much greater. Overall, the financial impact of smoking on the social care system is 4 times greater than on the NHS.

It is important to reiterate that the estimates on the cost of smoking provided here are only those arising from social care need among adults aged 50 and over for domiciliary care and 65 and over for residential care as a result of the age range of participants included in the ELSA and HSE datasets on which this analysis is based. This means that the true impact of smoking on social care need across all adults could be even larger than £1.2 billion each year and an even greater proportion of local authority spending on home and residential social care than 8%.

Previous estimates for local authority funded domiciliary care for people aged 50 and over were £720 million in 2019 and £760 million in 2017. As set out in Table 6, this is now estimated at £625 million. This fall is due to a combination of falling rates of smoking among people aged 50 and over and cuts in local authority funding for social care since 2017. The cost to local authorities of

increased residential care for individuals aged 65 and over is estimated at £565 million – this is the first time that a statistically significant impact of smoking on this part of the social care system has been identified.

The 'informal care' row in Table 6 and £8.16 billion cost reflects how much it would cost local authorities in England to replace social care which is currently provided informally by partners, relatives, friends and neighbours with formal care provided by paid-for social care professionals. This estimate has fallen since the 2019 version of this analysis, when the cost was estimated at £10 billion. This fall is in part a result of changes in the methodology which provide a more accurate understanding of the average number of hours of care received through informal care.

The cost of meeting additional unmet needs due to smoking whilst substantial, at around £6bn, is also a decrease from the previous set of estimates in 2019, largely due to revised estimates of the average number of hours of care received.

Altogether, these costs mean local authorities are effectively saving just over £14 billion every year by not meeting all social care need caused by smoking, either because those needs are met informally or because they are not met at all.

Previous versions of this analysis found a statistically significant relationship between smoking status and receipt of self-funded residential and domiciliary care, that is, social care provided by paid-for professionals, where the cost is met by the individual receiving care, rather than the local authority. This analysis did not find a significant relationship in this area. The reason for this change is not clear from this analysis and requires further research. One reason for this could be falling smoking prevalence among those able to afford privately provided social care, meaning there is no longer a large enough sample of these individuals in the data to show an impact.

Conclusion

This analysis demonstrates the significant contribution smoking makes to current social care need in England, and the resulting cost of smoking to the social care system and to communities. The findings are stark, showing that people who smoke and those who have recently quit are substantially more likely to need social care support than longer-term ex-smokers and never smokers and to need that support at a younger age than their peers.

Whilst over 102,500 people are currently estimated to be receiving local authority funded social care support in their own home or in residential care, over 1 million people (1,095,000) are receiving support from informal sources to meet needs they have as a result of smoking. Given this estimate, it is reasonable to assume that there are at least as many people working unpaid to provide this care. The cost of smoking in this context is therefore not limited to the person in need of care as a result of smoking, but extends to the partner, relative, friend or neighbour providing support to them without pay. Given, on average, people who have social care needs because of smoking do so at a much earlier age than never smokers, many of these unpaid carers are likely to be of working age. The care demand smoking places on them may therefore result in an additional individual and societal cost resulting from reduced working hours and lost productivity which are not captured in this analysis.

The findings on the cost of smoking to the social care system are particularly striking. That 8% of all local authority expenditure on home and residential social care for adults is accounted for by smoking and that the impact of smoking on local authority social care finances is 4 times greater than the impact of smoking on NHS budgets is a novel finding in this report. Addressing smoking is recognised as a core part of NHS activity both to improve population health and reduce pressure on the health service.[6] These findings show that the case is no different and, if anything, more urgent for the social care sector. National and local government should take notice that action addressing smoking must form a part of any strategy aiming to fix the ongoing crisis in social care in England.[7]

The cost of meeting social care need caused by smoking which is either met informally or is completely unmet is also staggering, totalling an additional £14.07 billion worth annually. Local authority spending on domiciliary and residential care for adults is around £14.7 billion every year in England.[3] Meeting this additional smoking caused social care need would require almost doubling the local authority budget for home-based and residential social care in England.

Put together, this analysis therefore reasserts and reinforces the case for national, regional and local action to address smoking through comprehensive tobacco control strategies in order to improve the population's health and quality of life, to ease pressure on an overstretched social care system and to deliver a sustainable solution for the future of social care in England.

References

1. NHS Digital. Statistics on smoking England, 2020. December 2020.
2. U.S. Department of Health and Human Services. The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014.
3. Landman Economics. The costs of smoking to the social care system and related costs for older people in England: 2021 revision. March 2021.
4. Department of Health. Towards a smokefree generation: A tobacco control plan for England. July 2017.
5. Jha P, Ramasundarahettige C, Landsman V, et al. 21st Century Hazards of Smoking and Benefits of Cessation in the United States. New England Journal of Medicine 2013;368:341–50
6. NHS England. The NHS Long Term Plan. January 2019.
7. The Health Foundation. Social care funding gap. Accessed 11th March 2021.

Please cite as: Action on Smoking and Health (ASH). *The Cost of Smoking to the Social Care System*. March 2021.

Action on Smoking and Health
6th Floor, Suites 59-63
New House
67-68 Hatton Garden
London, EC1N 8JY

tel: 020 7404 0242
fax: 020 7404 0850
e-mail: enquiries@ash.org.uk

Visit our website **www.ash.org.uk** for more information.

ISBN: 978-1-913448-12-7