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Smoking Cessation: Additional benefits to quitting and risk factors for failing to quit

The percentage of the U.S. population that smokes has declined dramatically over the past 50 years. While in 1965 more than 40 percent of the population smoked, currently about 20 percent smoke. Still, approximately one billion people smoke worldwide including over 45 million adults in the United States. Many of these are long-term smokers who have not quit despite knowing the health risks.

Research findings on two related topics – *additional benefits to quitting*, and *risk factors for failing to quit* – can serve as the basis for developing more effective public and work-place policies to motivate and help smokers to quit. We provide empirical evidence regarding smoking cessation using large nationally representative data sets, often of older long-term smokers.

Additional Benefits to Quitting:

Benefits beyond those of health need to be identified and quantified. By providing evidence on additional benefits to quitting, smokers who have not yet quit due to health reasons alone may find these additional benefits compelling. Some of the benefits accrue immediately after quitting instead of with a long time horizon as in the case of improved health. Quantifying these benefits may also help bolster the case for policies to

encourage and support cessation. We focused on benefits that spillover to the family and on productivity gains to quitting, which in turn may spillover to the family.

Risk Factors for Failing to Quit:

Identifying factors that make individuals less likely to quit is useful for the development of policies to help these cessation-resistant smokers. We identified the following factors that make smokers less likely to quit: a spouse who smokes; stress of job loss; no personal experience of smoking related health loss; and fear of weight gain associated with quitting smoking.

This brief reports on the findings from our research studies on quitting-resistant smokers, assesses implications for both public and private policies aimed at encouraging smokers to quit, and provides a list of publications from this research.

Additional Benefits to Quitting

Health benefits to quitting have been potent motivators for cessation. Other benefits may not be as obvious, and perhaps are more difficult to measure, but could be important and compelling in the decision to quit or to refrain from smoking. One category of these benefits is the potential spillover to the family;

Sidebar

Reducing Smoking as a First Step in Quitting

Smokers who reduced their quantity of cigarettes smoked were more likely to quit smoking as compared to other smokers.¹ In addition, those who reduced and then quit were somewhat less likely to relapse later.

These findings suggest that successfully reducing the quantity of cigarettes smoked helps future cessation and prevention of relapse. Cutting down may be an effective initial strategy for successful quitting. We speculate that for those who have difficulty quitting, or are apprehensive about quitting, physicians and counselors could suggest cutting back as a first step.

another is labor market productivity gains, which in turn can affect the family. Consideration of these potential benefits to the family and to productivity is important for comprehensive assessment of the impact of a policy intervention and to add additional support for public policies helping smokers quit.

Family: Expenditures on Smoking Crowd-out Other Purchases

Tobacco Expenditures Crowd-out Other Purchases: Expenditures on cigarettes can reduce a family's ability to buy other items. Our research showed that money spent on tobacco "crowds-out" essential goods and services for low-income families. Quitting smoking would help to increase money available for these families to buy needed goods and services.

Findings in the United States: Families in which at least one individual smokes spent more than \$1,000 a year on tobacco.² Surprisingly, poor and rich families spent about the same amount on tobacco, but for low-income families, expenditures on tobacco crowded-out other expenditures. Low-income families with one or more smokers spent less on housing than families without any smokers; they spent a lower percentage of

their income on health care, food, and apparel. We did not find such a crowd-out effect for higher income families who smoke. Cigarette purchases were a relatively small part of the budget of higher income families and they did not significantly compromise other expenditures. Poor families are more affected than other families due to the expenditure crowd-out.

Findings in China: A similar study of households in low-income, rural China also found that spending on tobacco reduced money available to meet other family needs.³ Among families with high levels of smoking and drinking, expenditures on alcohol and tobacco reduced expenditures on items that were critical to the future of these families. Families with high smoking and alcohol expenses reduced savings and spending on elementary educational fees (which must be paid in China), durable goods, food, housing and agricultural expenditures.

Because these are poor families, they may not be meeting the nutritional needs of their children as they are spending less on food. In addition, they are not investing as much in their children's future as they spend less to send their children to school, invest less in their farms, and save less money. These reduced expenditures are likely to be harmful to the future of the family. When these rural families reduce spending on agriculture, they have less ability to generate income and produce food for themselves in the future.

Sidebar

It is estimated that in China 67 percent of males smoke while only 4 percent of women smoke. The rates in the U.S. were more similar by gender, about 24 percent for males and 18 percent for females.

Family Spillover: Spouse Quitting Helps Others to Quit: A smoker is likely to be married to another smoker. Quitting by one spouse helps the other one to quit.⁴ This is a benefit of quitting that spills over to the spouse and likely to other family members as well. One mechanism of the spillover may be that one spouse requests changes in the house to make it more conducive to quitting. For example, the spouse trying to quit may ask that there be no

smoking in the house or car, remove ashtrays from the house, and try to avoid situations where there is smoking. In addition, the quitter may share effective methods that help and motivate the spouse to quit.

*Productivity Benefits to Quitting –
Family Spillover too*

Reduced Earnings: We found that smoking was associated with lower earnings even after adjusting for the lower educational attainment of smokers on average.⁵ Earnings were even lower for those who both smoked and had poor mental health, adjusting for a variety of relevant factors. Smoking and poor mental health each had a separate negative impact on earnings but both smoking and having poor mental health together were associated with even lower earnings.

These results suggest, but do not prove, that helping smokers to quit may increase their earnings. Those who are in poor mental health and smoke are quite vulnerable and may need particular attention to their cessation efforts.

Quitting and Absences: Based on the finding that smoking hurts labor market outcomes, we examined whether quitting improves these outcomes particularly absences for work.⁶ Smokers had, as expected, more absences. While we hypothesized that quitting would reduce absences, we found that those who quit within the last year, and especially in the last three months, had a greater probability of missing work than even current smokers. As the time since quitting increased, absences declined to a rate somewhere between those who never smoked and current smokers.

One interpretation of our findings is that smokers may quit for health or other reasons. For example, if smokers quit in response to poor health, their increased absences may be explained in part by their current health problems. Over time, after quitting, their health may improve and, consequently, they would be able to attend work more consistently. Given

that absences seemed to rise after cessation (though only in the short term), firms, especially those with high worker turnover rates, may not be motivated to provide workers with cessation programs.

Risk Factors of Failing to Quit

Most individuals who smoke currently want to quit but have not been successful in doing so; some never stop smoking, some quit and then relapse. Older smokers have the greatest risk of poor health due to both their age and their long-term smoking. Therefore, they are a key group to examine for policy purposes. Help for these smokers will best be developed based on knowledge of their risks for failing to quit. Our research has identified several critical risks for failure to quit smoking.

Other Family Members Smoke: We found that a smoker who lived with a spouse who smoked was less likely to quit smoking.⁴ We suggested that in a house and life full of smoking cues and with ready access to cigarettes, the arduous process of quitting was more likely to fail. Further, a smoker married to another smoker was less likely to try to quit. By extension, it is likely that smoking by other family members also reduced the chances of trying to quit or of being successful for those who tried.

Stress of Job Loss: In another study, we found smokers who had lost their job involuntarily increased the quantity of cigarettes smoked.⁷ Former smokers who lost their job were more likely to relapse. We studied involuntary job loss such as plant closure or layoff because we wanted to distinguish planned and preferred job loss (such as retirement or quitting) from stressful job loss. Losing a job can engender financial, psychological and other stress.

Specifically, we found that older smokers were more than twice as likely to relapse subsequent to involuntary job loss compared to those who continued working. Our hypothesis was the stress of job loss accounted for the increased smoking and the relapse. This effect outweighed the financial hardship, which would otherwise tend to result in fewer cigarettes purchased. Our results highlight involuntary job loss as an important risk factor for older smokers and former smokers.

"Giving up smoking is the easiest thing in the world. I know because I've done it thousands of times."

– Mark Twain

Sidebar

State Spending on Tobacco Control

States have the opportunity to help smokers quit by funding and implementing cessation programs such as quit lines.⁸ State budgets were examined to determine what factors affect states' spending on tobacco-control.

The primary research question was whether public sentiment for tobacco control was a significant factor. We found that state-level tobacco control funding per capita was increased by public opinion in favor of smoking bans as well as a Democratic governor, a low state smoking rate, higher excise tax revenues, and if the state was not a major producer of tobacco.

Policy Implication

Effective public education to change public opinion and the cultural norms surrounding smoking may affect political decisions and in turn increase funding for crucial public health programs such as tobacco control. Media programs to affect public opinion may in turn increase state spending.

Good Health: Older, long-term smokers who have not suffered a serious health problem may think they are immune to the adverse health consequences.⁹ They may not be motivated to quit. Our evidence showed that development of a health problem increased the likelihood of a smoker quitting. We examined the effect of the onset of new health problems such as of heart attacks, strokes, cancers, chronic lung disease, chronic heart failure, and diabetes, and on future quits.

Fear of Weight Gain: Using evidence from a survey we developed, we found that fear of weight gain often associated with quitting was a barrier to cessation.¹⁰ Quitting methods that address weight gain would pave the way for additional smokers seeking to quit. Women, as might be expected, were most concerned about their weight gain. We found that

smokers were willing to pay more for a treatment that would help them quit without gaining weight. A majority of the respondents was willing to pay for the more effective treatment, and a majority of those was willing to pay more if the increased effectiveness were accompanied by the attenuation of the weight gain typically associated with smoking cessation.

Policy Implications

Policies Aimed at Low-income: Helping low-income parents quit also helps their children. Low-income parents who smoke have less money to spend on their children, which may compromise both their health and future. In addition, if parents smoke, their children are more likely to smoke, which also adds stress on family spending.

Low-income and low-education individuals need the most aid in quitting smoking. They have the highest smoking rate and in many ways suffer the most adverse consequences. Buying cigarettes has a bigger negative impact on their spending on other goods and services than it does for those with higher income.

The government can help low-income smokers quit by: 1) expanding Medicaid and Medicare coverage of smoking cessation counseling and treatments; 2) funding quit lines; and 3) implementing state-wide smoking bans in all public places and workplaces. Medicaid coverage is offered in only some states and the coverage is typically not comprehensive. Medicare coverage for cessation is limited to only some smokers, e.g., those who are suffering smoking related diseases.

Family and Productivity Spillover: Smokers may have greater motivation to quit if specific information is made available about the immediate benefits to their families from quitting. Such information could be incorporated into the design of treatment programs and counseling.

Failure to consider these spillover benefits would underestimate the true returns of cessation programs and policies. This could result in too little private and public investment in cessation.

Development of more effective cessation programs with more intense counseling to address underlying problems of the worker, such as health problems, may be needed so that cessation does not result in increased absences.

Firms with high worker turnover may have too short a time horizon to reap the longer run benefits of employee cessation programs, so the government may have to take the lead in programs such as workplace smoking bans, especially in blue-collar work places, which have been slower in developing bans.

Risk of Failing to Quit: One family member quitting may influence the rest of the family to quit. This benefit should be considered in evaluation of smoking cessation programs or too little investment may occur.

Design of cessation programs should recognize that other family members might smoke. Cessation programs for families of smokers might be more effective than individually focused programs.

The government, health plans, and firms could offer coping strategies when workers lose their jobs, as the stress may lead to relapse to smoking and smoking more cigarettes. Physicians could be alert to major stresses that could trigger more smoking.

Medical care providers should take advantage of windows of opportunity of high motivation to quit that occur with a new diagnosis of disease. Hospital-based cessation programs as well as outpatient programs could also be offered to family members who, by reflection, may be more motivated to quit as well.

Medical care providers should encourage cessation for long-term smokers who have not yet suffered smoking-related health problems. These smokers may need greater motivation to quit because they may feel immune to the adverse health effects of smoking.

Key Policy Implications

- *Low-income and low-education individuals need the most aid in quitting smoking.*
- *Helping low-income parents quit also helps their children, both through reduced crowd-out and patterning.*
- *The government can help low-income smokers quit by: 1) expanding Medicaid and Medicare coverage of smoking cessation treatment; 2) funding quit lines; and 3) implementing state-wide smoking bans in all public places and workplaces.*
- *Smokers may have greater motivation to quit and be successful if specific information is made available about the benefits to their families of quitting.*
- *More effective cessation programs should be developed with more intense counseling to address underlying problems of the worker, such as health problems.*
- *Cessation programs should be designed with the other smokers in the family in mind and possibly involved in cessation.*
- *The government, health plans, and firms could offer coping strategies when workers lose their job as the stress may lead to relapse to smoking and smoking more cigarettes.*
- *Medical care providers should take advantage of windows of opportunity with the high motivation to quit that occurs with a new diagnosis of disease.*

Yale TTURC Policy Related Publications

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