Increasingly, people who are desperate to change their behaviour are putting their money on the line to motivate them towards success. But can placing a public bet really help people to lose weight, quit smoking, or exercise more? Could this type of commitment contract be a valuable tool for promoting public health?

Over 20,000 people have publicly signed up to change their behaviour at the online commitment store StickK (pronounced stick—the silent second letter k refers to the legal shorthand for contract) since the website was launched in January 2008. Of these, about a third have placed a financial stake—promising to hand over a total of $1.28m (£870,000; €960,000) if they fail to meet their goals.

It may seem surprising that people chose to put their money at risk in this way, especially since many would already have tried to change their behaviour and failed. But Yale economics professor and StickK cofounder, Dean Karlan, thinks the explanation is clear. “Most people have something in their life that they would like to change. That’s why we make New Year resolutions—yet most people can think back to their previous resolutions and realise that they didn’t succeed. So it makes sense that offering someone a new way to meet their goal should generate very high take-up rates,” he explains.

Over half of the contracts on StickK concern weight loss or weight maintenance, with exercise related contracts the second most popular. About a third of users pledge to give money to an individual or an organisation if they don’t meet their goals. Around $25,000 has been earmarked for contracts. The idea behind a commitment contract is that people choose a goal for changing an aspect of their behaviour, make a public commitment to change, and in some cases put up a financial stake that they are prepared to forfeit if they fail. Of course, the idea of smokers and dieters placing bets with friends and family to help them achieve their goals is hardly new. But commitment contracts formalise the process to try to improve the chances of success.

Karen McColl investigates whether they work and the implications for public health policy.
Putting your money where your mouth is, will these websites help people lose weight?

“anti-charities”—causes that the participant does not want to support. According to the website, 80% of participants who make the contract conditions as stringent as possible—in other words, people who put up a financial stake, who nominate a referee to verify results, and who designate an anti-cause—meet at least half of their targets.

**Behaviour theory**

Professor Karlan, like many exploring the use of commitment devices, is a behavioural economist. This relatively young branch of economics brings psychology into economic theory to explain how humans behave in the real world. Behavioural economics made a big splash in public policy last year with the publication of *Nudge* by Richard Thaler, considered by many to be the inventor of behavioural economics, and Cass Sunstein. The book argued that policy makers need to change the “choice architecture” to nudge people towards making healthy decisions.

A crucial part of the theory behind commitment contracts is the idea that we tend to devalue the future—in other words, we tend to put a higher value on any immediate costs or benefits than on those which we’ll experience in the future. In effect, the value of the longer term benefits of quitting smoking, resisting a high energy snack, or going for a run are discounted more than the immediate rewards of one last cigarette, a chocolate bar, or postponing the run until tomorrow. Because we knock down the value of future benefits in this way, it can be harder to resist the temptation of a smaller reward here and now.

And because we also discount future costs, we are enthusiastic about the idea of changing our behaviour in the future. But when tomorrow comes, the costs of this behaviour change have increased and we often change our minds.

“The commitment contract is a very simple way of making tempting options more expensive so that we do not choose them,” explains Professor Karlan, whose own success in losing weight by placing a hefty bet with a friend inspired him to set up StickK.

“We tend to put a higher value on any immediate costs or benefits than on those which we’ll experience in the future”

“I wanted to be able to go into a restaurant and have a nice healthy meal and then to look at the dessert menu and the price, instead of being $20, was effectively $200 or even $1000. That’s what this contract does—it takes the vices we have and it makes them more expensive.”

**Health policy**

Public health researchers have long experimented with using contracts between health professionals and patients to promote behaviour change. A Cochrane review of 30 studies examining different types of contracts found that there is not enough reliable evidence to recommend their routine use in improving adherence to treatment, prevention, or health promotion activities. Some of the contracts studied included financial incentives or rewards, and there is growing interest in the use of incentives to promote behaviour change. Earlier this year, for example, Eastern and Coastal Kent NHS attracted considerable media commentary when they called for participants to take part in a weight loss incentive trial offering rewards of up to £425 for people who lose weight.

There are, however, relatively few examples of health policy makers using commitment contracts—where individuals themselves decide on the contract terms and put their own money at risk—to promote health. In one such example, the Swiss federal office of sport and its partners ran a high profile “health bet” initiative in 2002 to encourage physically inactive people to become more active. Participants could set their own goals. Those who succeeded were entered into a lottery for high value prizes and those who did not were encouraged to make a donation to a disabled sports charity.

Another example is a randomised controlled study among 2000 smokers in the Philippines conducted by Professor Karlan and colleagues. They offered smokers a savings account into which they would deposit money. Urine tests for nicotine and cotinine were carried out after six months and 12 months. Those who passed the six months test had their money returned; the money of those who failed was forfeited to a local orphanage. Eighty three smokers entered into a lottery for high value prizes and 12 months test had their money returned.

Is there any evidence that commitment contracts work? The results of the Swiss health bet initiative were “very disappointing” according to Brian Martin, one of the researchers who implemented the project. Despite extensive publicity through national media, only 55 people volunteered to take
part. Furthermore, only 35 applicants met the definition of “physically inactive” to be eligible for inclusion and, of these, only eight succeeded in meeting their activity goals. Martin and colleagues concluded that one reason for the poor take-up might have been the fact that many people who fail within the technical definition of physically inactive simply do not see themselves in that way.

The results of the Philippines study were more encouraging. The smokers who took up the offer of the savings scheme were around 30 percentage points more likely to stop smoking than they would have been if they had not been offered the scheme.1

Interest is growing in the use of commitment contracts in developing countries. Development economists are studying the potential of such contracts to help with a wide range of development issues—such as tobacco control legislation, changes to the obesogenic environment, and measures to tackle social inequalities—will remain fundamental.

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Competing interests: None declared.


Cite this as: BMJ 2009;338:b1456

ANSWERS TO ENDGAMES, p 1217

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CASE STUDY

Femur fracture in an infant

1 Initial evaluation of any trauma in an infant should focus on the mechanism of injury, the plausibility in light of the infant’s motor development, how the caregiver noted a problem, the infant’s medical history, and the reports of witnesses to the event. Even when the history is compatible with the injury, as in this case, a fracture in a pre-mobile infant warrants an evaluation to rule out abuse or underlying pathology.

2 The major differential diagnosis for a fracture in an infant includes accidental injury, child abuse, birth trauma, metabolic bone disease such as rickets, and osteopenia as a result of premature birth or severe dietary deficiency. Rarely, fractures can be caused by congenital biochemical collagen disorders such as osteogenesis imperfecta.

3 A skeletal survey is needed to identify occult fractures and bone malformations. The threshold for neuroimaging should be low when abuse is suspected. Laboratory tests to evaluate possible metabolic bone disease include serum concentrations of calcium, phosphorus, alkaline phosphatase, calcidiol (25-hydroxyvitamin D) and parathyroid hormone.

PICTURE QUIZ

Unwell man with abdominal pain

1 The computed tomogram shows an enlarged left kidney with streaks, which indicate bubbles of gas within the renal parenchyma and perirenal spaces. Fluid has collected in the perirenal spaces, in keeping with abscess formation.

2 The image findings are characteristic of emphysematous pyelonephritis within the left kidney. This disorder is a form of fulminating acute necrotic pyelonephritis. The culprit causative organisms for the condition are Escherichia coli, Proteus species, and Candida albicans.

3 Diabetes is the key predisposing factor for emphysematous pyelonephritis. Other risk factors include a compromised immune system and an obstructed kidney.

STATISTICAL QUESTION

Correlation