

The majority of the population, and one in five children, are overweight or obese in the OECD area. A nearly tenfold variation in rates of obesity and overweight is observed across OECD countries. The obesity epidemic has spread further in the past five years, but rates have been increasing at a slower pace than before. Obesity and overweight have been virtually stable, or have grown modestly, in Canada, England, Italy, Korea, Spain and the United States, but have increased by a further 2-3% in Australia, France, Mexico and Switzerland. The economic crisis is likely to have contributed to further growth in obesity. Social disparities in obesity persist, and have increased in some countries.

A growing number of countries have adopted policies to prevent obesity from spreading further. Mexico, for instance, has launched one of the most comprehensive government strategies to address the problem in 2013, including awareness-raising, health care, regulatory and fiscal measures. Several countries have developed multi-stakeholder frameworks, involving business and civil society actors in the development of public health policies. Evaluations of the effectiveness of these initiatives are only beginning to emerge.

Over half of all adults are overweight

Overweight and obese people are a majority today in the OECD area. The obesity epidemic continues to spread, and no OECD country has seen a reversal of trends since the epidemic began. Until 1980, fewer than one in ten people were obese in OECD countries. In the following decades, rates doubled or tripled, and are continuing to grow.

Across the OECD, 18% of the adult population are obese. More than one in three adults in Mexico, New Zealand and the United States, and more than one in four in Australia, Canada, Chile and Hungary are obese. In contrast, rates are just 2 to 4% of adults in Asian countries (Figure 1). Rates grew rapidly in Australia, England and the United States since the 1990s, while they grew at a slower pace in other countries (Figure 2).

The OECD report *Obesity and the Economics of Prevention: Fit not Fat* [www.oecd.org/health/fitnotfat] showed the scale of the obesity epidemic and made a compelling case for policy action to prevent the health, economic, and social consequences of obesity.

Obesity rates stabilised in some countries

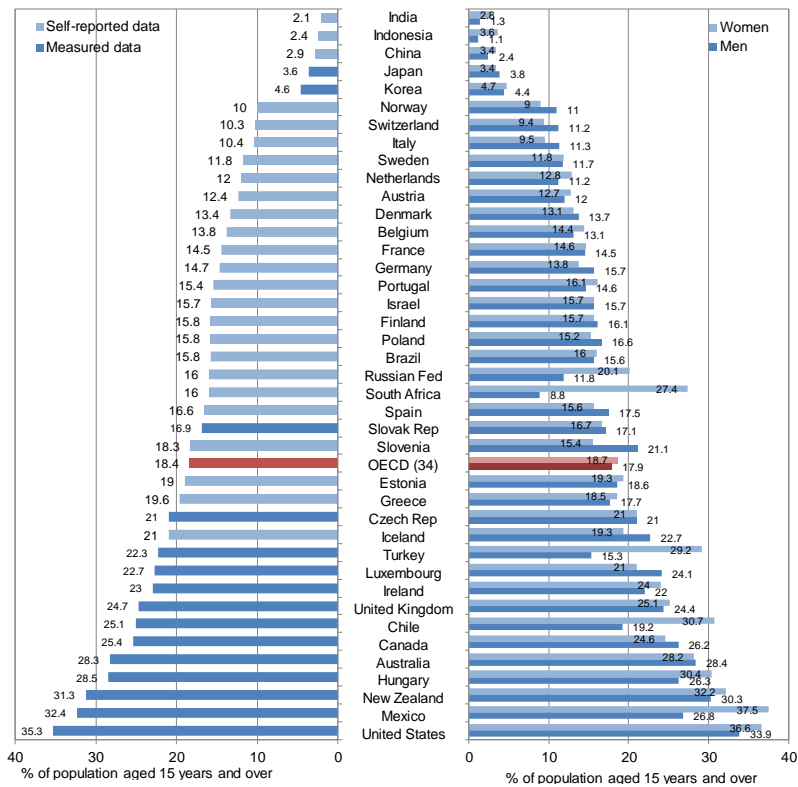
New data from ten OECD countries confirm that the obesity epidemic has not stopped spreading.

However, a slightly more positive note is that rates have been increasing at a slower pace in the past five years than previously seen.

Overweight (including obesity) rates have almost stabilised in Italy, England and the United States, and have grown modestly in Canada, Korea and Spain, in the past ten years. France is the only country where overweight rates have increased more than projected in 2010. Growth continues to be robust also in Mexico, Australia and Switzerland. There is no sign of convergence in overweight and obesity rates across countries, and no sign of retrenchment of the epidemic.

Height and weight have been increasing since the 18th century, as income, education and living conditions gradually improved over time. While weight gains were largely beneficial to the health and longevity of our ancestors, an alarming number of people have now crossed the line beyond which further gains are dangerous. Severely obese people die 8-10 years sooner than those of normal weight, similar to smokers, with every 15 extra kilograms increasing risk of early death by approximately 30%. Obesity is estimated to be responsible for 1% to 3% of total health expenditure in most countries (5% to 10% in the United States) and costs will rise rapidly in coming years as obesity-related diseases set in.

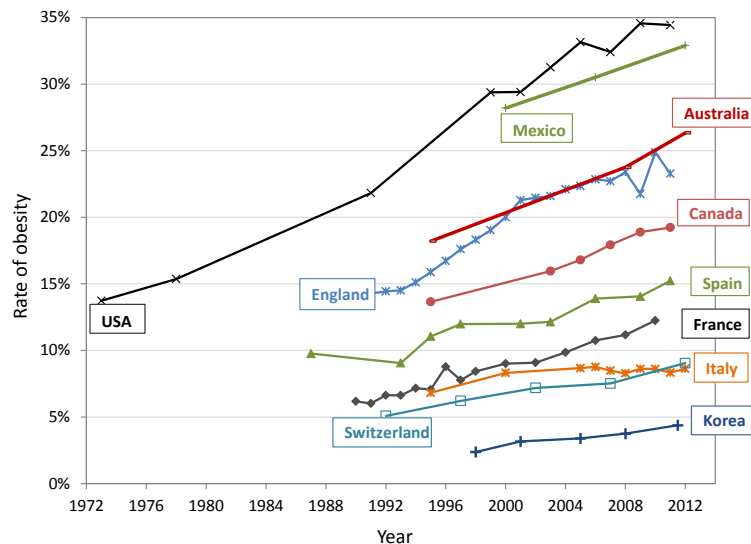
Figure 1. Obesity among adults, 2012 or nearest year



Note: The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: OECD (2014), *OECD Health Statistics 2014*, forthcoming, www.oecd.org/health/healthdata.

Figure 2. Obesity rates



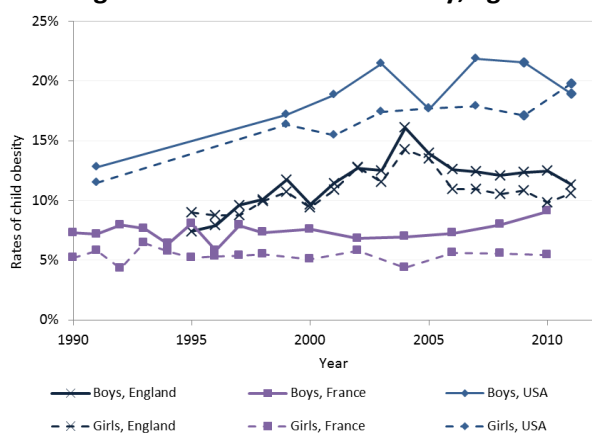
Note: Age- and gender-adjusted rates of obesity and overweight, 2005 OECD standard population. Measured height and weight in Australia, England, Korea, Mexico and the United States; self-reported in other countries. No projections were produced in 2010 for Australia, Mexico and Switzerland.

Source: OECD analysis of health survey data.

Child obesity also growing less

The number of 15-year-olds reporting to be overweight in OECD countries has been increasing steadily since 2000, according to the Health Behaviour in School Children Survey (OECD, *Health at a Glance 2013*) [<http://dx.doi.org/10.1787/health-glance-2013-en>] A more detailed analysis covering a broader age spectrum in a selection of OECD countries reveals virtually stable trends in the past ten years in the United States and France (girls), a slight increase for boys in France, and slight declines in England and Mexico (from 18.1% to 17.2% for boys; and from 14.1% to 13.6% for girls, between 2006 and 2012 – Figure 3).

Figure 3. Trends in child obesity, age 3-17



Note: Age-standardised rates, 2005 OECD standard population. Measured height and weight in England and the United States, self-reported in France. Rates are based on WHO child obesity threshold. Source: OECD estimates based on national health surveys.

The relatively minor changes in child overweight and obesity seen in recent years should not be a reason for complacency. More than 30% of boys are overweight or obese in Greece, Italy, Slovenia, and the United States, and more than 30% of girls in the same countries except Slovenia. National estimates collated by the International Association for the Study of Obesity for OECD countries and key partners are shown in Figure 4.

Social disparities in obesity getting bigger

People with less education and lower socio-economic status (SES) are more likely to be obese, and the gap is generally larger in women. The social gradient observed in obesity is consistent with similar gradients in healthy eating and physical activity and with poorer labour market outcomes (particularly employment and wages) for people who are obese.

Obesity rates have grown more rapidly in low SES than in high in most countries. However, in the countries with the highest rates of obesity, Mexico and United States, obesity has spread even faster among people with more education in recent years, and no clear social gradients are seen (Figure 5).

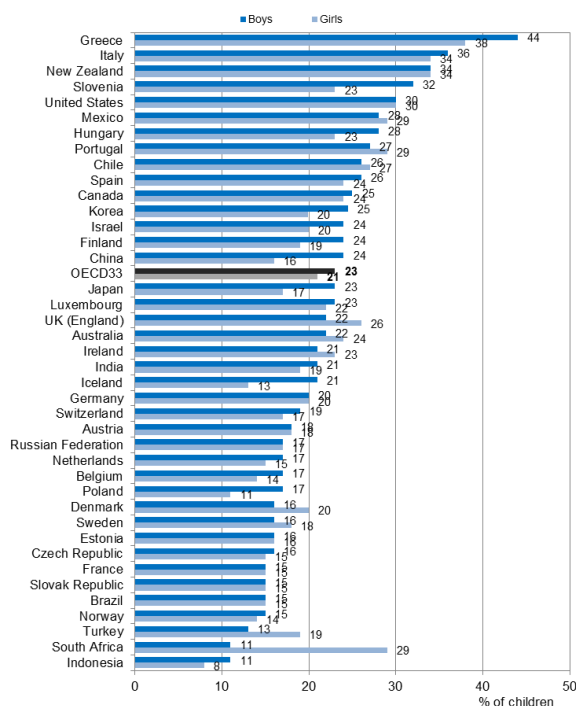
Policies to tackle obesity are improving

There is a clear case for action to address obesity, and evidence of the gains to be made through different prevention strategies has built up over time. OECD analyses have shown the potential health and economic impacts of a range of policies in countries covering over two-thirds of the world population.

A growing number of countries have adopted policies to prevent obesity from spreading further. Several OECD countries have increased their use of financial incentives linked with health and wellness objectives. Several US States, for instance, have expanded coverage in the public programme Medicaid, under the provisions of the Affordable Care Act, and introduced co-payments that can be waived when beneficiaries comply with specific wellness targets. In Japan, a programme of health examinations to identify people at risk for the metabolic syndrome and prevent its chronic disease consequences has been in place since 2008. Starting in 2013, insurers' contributions to cover care for the elderly will be linked with insurers' achievement of coverage targets for such health examinations.

A number of countries have increasingly relied on multi-stakeholder platforms in their efforts to counter obesity. In the United Kingdom, for instance, a Public Health Responsibility Deal was launched in 2011, in which the government sets targets and priorities and business partners make voluntary pledges contributing to the strategy. This evidence has polarised views on the role of private sector involvement in public health policy, but evaluations are only beginning to emerge. A further multi-stakeholder example is the Drink Up campaign promoted in 2013 by the Partnership for a Healthier America, chaired by the First Lady of the United States, and including a large number of business and civil society partners. The campaign had a scientific data-drive design, and early monitoring data show it has had some success in increasing water drinking.

Figure 4. Measured overweight (including obesity) among children aged 5-17, 2010 or nearest year



Source: International Association for the Study of Obesity, 2013; Bös et al. (2004), Universität Karlsruhe and Ministère de l'Éducation nationale et de la Santé for Luxembourg; and KNHANES 2011 for Korea.

Obesity and the economic crisis

In 2008, the world economy entered one of the most severe crises ever. Many families, especially in the hardest hit countries, have been forced to cut their food expenditures, and tighter food budgets have provided incentives for consumers to switch to lower-priced and less healthy foods.

During the 2008-09 economic slowdown, households in the United Kingdom decreased their food expenditure by 8.5% in real terms, with some evidence of an increase in calorie intake (the average calorie density of purchased foods increased by 4.8%). This change resulted in additional 0.08 g of saturated fat, 0.27 g of sugar and 0.11 g of protein per 100 g of purchased food (Institute for Fiscal Studies, *Briefing Note No. 143*). A similar trend was observed in Asian countries experiencing a recession in the late 1990s, with consumers switching to foods with a lower price per calorie (Block et al., 2005, *Economics and Human Biology*; World Bank, 2013, *Working Paper No. 6538*).

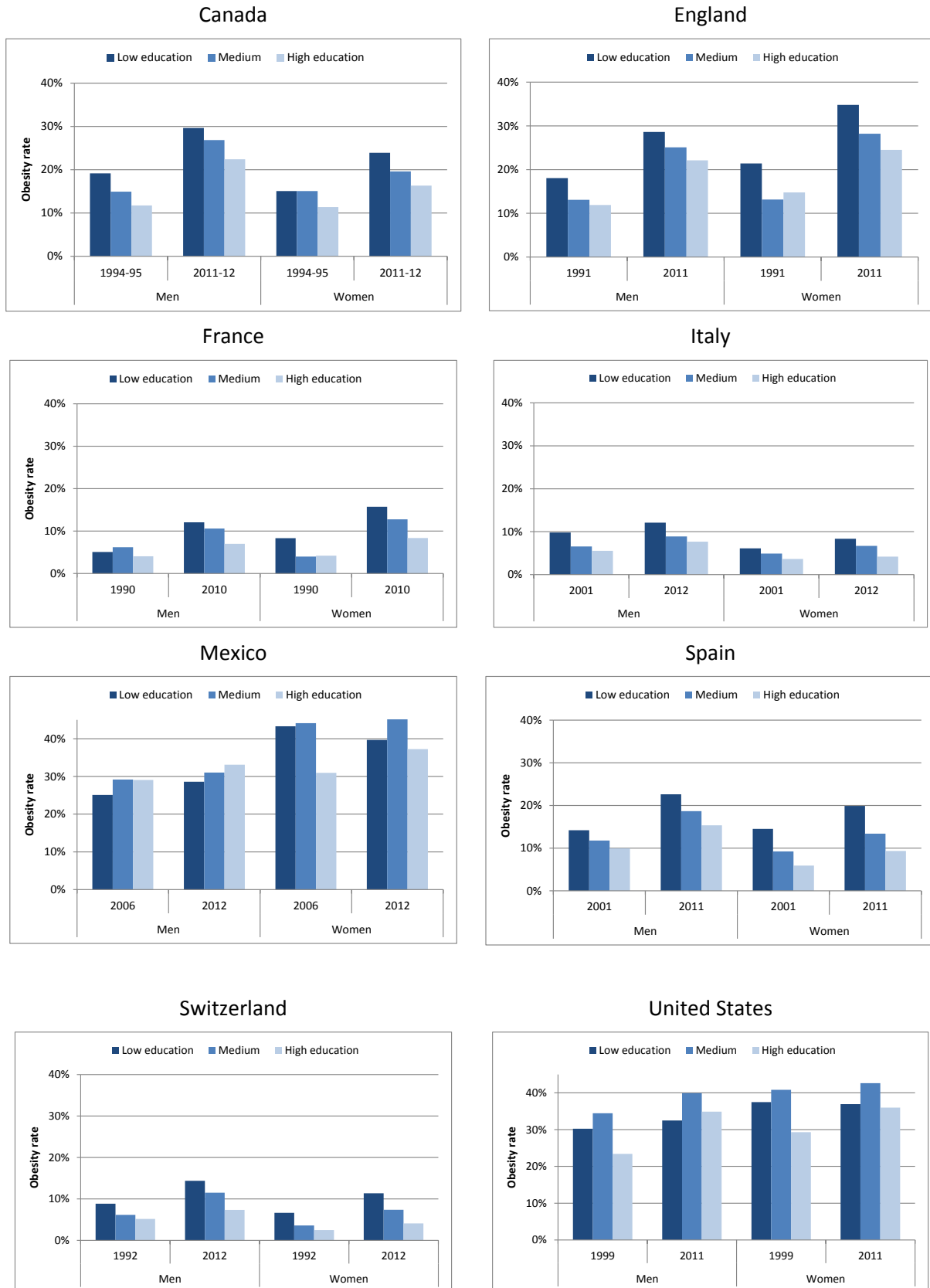
Between 2008 and 2013, households in Greece, Ireland, Italy, Portugal, Spain and Slovenia decreased slightly their expenditure on fruits and vegetables, while households in other European OECD countries increased it at an average of 0.55% per year (OECD/ Imperial College analyses of passport data, Euromonitor International). Fruit and vegetable consumption was inversely related with unemployment in the United States, in the period 2007-09, and the effect was three times stronger in disadvantaged social groups at higher risk of unemployment (corresponding to a 5.6% decrease in fruit and vegetable consumption for each 1% increase in state-level unemployment). Given the size of job losses at the peak of the crisis, the most vulnerable groups may have reduced their consumption by as much as 20% (Dave and Kelly, 2012, *Social Science and Medicine*).

Evidence from Germany, Finland and the United Kingdom shows a link between financial distress and obesity. Regardless of their income or wealth, people who experience periods of financial hardship are at increased risk of obesity, and the increase is greater for more severe and recurrent hardship (Munster et al., 2009, *BMC Public Health*; Conklin et al., 2013, *BMC Public Health*; Laaksonen et al., 2004, *Obesity Research*). An Australian study found that people who experienced financial distress in 2008-09 had a 20% higher risk of becoming obese than those who did not (Siahpush et al., 2014, *Obesity*). Financial hardship affects all household members. American children in families experiencing food insecurity are 22% more likely to become obese than children growing in other families (Metallinos-Katsaras et al., 2012, *Journal of the Academy of Nutrition and Dietetics*).

While some evidence suggests that shorter working hours and lack of employment are associated with more recreational physical activity (Tekin et al., 2013, *NBER Working Paper No. 19234*), at times of increasing unemployment any gains are likely to be offset by reduced work-related physical activity. In the United States, in the aftermath of the economic crisis, leisure-time physical activity increased by three METs (metabolic equivalents – a measure capturing both duration and intensity of physical activity) but work-related physical activity decreased by 19 METs (Colman and Dave, 2013, *NBER Working Paper No. 17406*).

In summary, the evidence of a possible impact of the economic crisis on obesity points rather consistently to a likely increase in body weight and obesity.

Figure 5. Trends in overweight and obesity rates by education level



Note: Adjusted probabilities of obesity for men and women, at age 40, controlling for ethnicity, marital status, tobacco smoking and working status.

Source: OECD estimates based on national health surveys.

Mexico has adopted one of the most comprehensive government programmes. A National Strategy for the Prevention and Control of Overweight, Obesity and Diabetes was launched in the second half of 2013. The policy rests on three pillars: improved public health and surveillance; better medical care for people with chronic diseases; regulation and fiscal measures. During the first phase of the strategy, the Mexican authorities have launched a media campaign aimed at raising public awareness of obesity and related chronic diseases. At the same time, a number of states started piloting the use of new technologies and non-economic incentives for physicians with the objective of increasing uptake and compliance to medical prescriptions for people with diabetes, high blood pressure and other related chronic diseases. Mexico is also reinforcing its regulatory framework on food advertising to children, labelling of processed food, availability of food in schools and taxation of unhealthy food.

More food and beverage taxes: success and controversy

In January 2014, Mexico implemented a new tax levied at a rate of 8% on food with an energy content exceeding 275 Kcal per 100 grams, and 1 peso (EUR 0.06) per litre on sugar-sweetened beverages. Revenues are expected to support public health programmes, although they are not formally earmarked. The tax was met with strong opposition by the industries concerned, but was relatively well accepted by the Mexican population. An aggressive media campaign supported by Bloomberg Philanthropies played an important role in creating a favourable environment for the implementation of the tax.

Mexico's initiative follows the example of several OECD countries, which introduced taxes on foods and non-alcoholic beverages in 2011 and 2012, including Denmark, Finland, France and Hungary. The characteristics of these taxes were illustrated in the OECD Obesity Update 2012.

An evaluation of the Public Health Tax on Food Products introduced in Hungary in 2011 shows a 29% price increase, and a 27% drop in sales, for the taxed products. It is estimated that 40% of

food manufacturers reformulated their products by reducing or eliminating the ingredients associated with the tax. The survey was undertaken by Hungarian authorities, but at least one component of it had a poor response rate, which may affect the validity of some of the findings (NETA Assessment, 2013). At the end of the first year, more than 95% of the predicted revenues were raised. These additional resources contributed to funding the public health budget and healthcare worker salaries.

The tax on saturated fat introduced in Denmark in October 2011 reduced the consumption of the taxed products by 10% to 15% in the first nine months, with demand partially shifting from high-price supermarket to discount stores. The revenues raised between November 2011 and January 2012 were more than 96% of those originally forecasted (Statistics Denmark data). However, the tax was abolished in November 2012, amidst political controversy and lobby pressures.

Five months after the implementation of a tax on soft drinks in France, the degree to which the tax was passed on to consumers varied from 60% for fruit drinks to 100% for carbonated drinks (Banque de France, 2012, *Working Paper No. 415*). Estimates pre-dating the introduction of the tax, which slightly overestimated the increase in retail prices, had predicted that this tax would have produced a decrease in consumption of approximately 3.4 litres per person per year (Bonnet and Requillart, 2012, *Cahiers de nutrition et de diététique*).

In 2012, the Irish Department of Health estimated that a 10% tax on sugar sweetened beverages (SSBs) would reduce calorie intake by 2.1 Kcal per week, on average (with a greater reduction in young people), and would translate into 10 000 fewer obese adults. Based on this evidence, the Department of Health proposed a 20% tax on SSBs during the discussion of the 2014 budget, but the tax has not been adopted for the time being.

Recent OECD work on fiscal policies concluded that taxes on food and non-alcoholic beverages need to be carefully designed to achieve their intended effects [<http://dx.doi.org/10.1787/5k3twr94kvzx-en>]. As the examples of Denmark and

Ireland illustrate, the use of taxes for health promotion remains a politically sensitive subject, despite increasing interest by many governments. On the other hand, ex-post evaluations of recently implemented taxes show that effects can be accurately predicted, at least in terms of revenue generation, which is a sign that policy makers can rely on an increasingly solid knowledge base for their decisions.

Advances in nutrition labelling

New legislation on food labelling has been recently implemented in a number of OECD countries. EU legislation, passed in 2011, will come into force in 2016 (EU Regulation 1169/2011). The law makes food labels compulsory to indicate energy, fat, saturated fat, carbohydrates, sugars, proteins and salt as guideline daily amount (GDA). Although the use of front-of-package (FOP) GDA labelling has been discussed and envisaged, this remains voluntary. In 2013, the UK government launched a new voluntary, consistent labelling scheme that combines traffic light colour coding – red, amber and green – with nutritional information showing the amount of fat, saturated fat, salt, sugar, and calories in food products (UK government, 2013). Although the “traffic-light” approach has been shown to be convenient and easy to understand by consumers, the UK scheme has been met with criticism by some EU member states, on the grounds of a possible discrimination against certain foods.

Last February, the US government proposed to overhaul food nutrition labels, in particular to revise serving sizes, display calories more prominently, and include information on added sugars. If approved, food manufacturers will have two years to implement the new labels. Mexico’s National Strategy includes food labelling provisions that will make nutritional information more visible and standardised across products. Mandatory FOP labels will present the total energy content per package, the energy content by nutrient, and the corresponding percentage of the recommended daily calorie intake, the number of servings per container and the total energy per serving. In Chile, a law on Food Labelling and Advertising

was approved in July 2012. This law was intended to incorporate easy-to-understand FOP labels with specific messages concerning critical nutrients, highlighting products high in sugar, salt and/or fat with a negative FOP tag (Popkin et al., 2013, *Obesity Reviews*).

Most evaluations of nutrition labelling are based on experiments assessing different schemes (traffic lights, GDA, front/back-of-package labels, shelf-labelling system) on a limited set of products and in restricted time and space conditions (Storcksdieck et al., 2012, *Current Obesity Reports*). Evidence suggests that food labelling leads to reformulation of food contents (e.g. reduction in salt and fat, increase in fiber) (Vyth et al., 2010, *International Journal of Behavioral Nutrition and Physical Activity*; Capacci et al., 2012, *Nutrition Reviews*). Food labels are well understood by consumers, although they do not always use them to make their purchase decision because other factors (e.g. price, habits, convenience, taste) take priority. An evaluation of the Healthier Choice Symbol program in Singapore showed this led to an overall healthier diet (Foo et al., 2013, *Obesity Reviews*).

Tighter regulation of food advertising

Since 2011, a number of OECD countries tightened their regulation of the marketing of potentially unhealthy foods and beverages to children. As part of its National Strategy, Mexico introduced new regulations to protect children from exposure to advertising of potentially unhealthy foods. The new regulations ban the advertising of potentially unhealthy foods, on radio and TV, during hours in which children are a significant component of the audience (between 07:00 and 19:30 during weekends, and between 14:30 and 19:30 during week days). However, exceptions are foreseen for certain types of programmes (e.g. sport events). Restrictions will also apply in cinemas showing movies aimed at children, but do not cover billboards and the Internet.

Slovenia adopted new media legislation and the Ministry of Health was requested to develop food marketing guidelines. Iceland passed a law banning advertising in programmes aimed at children aged less than 12. Norway, that had already restricted broadcast advertising to children, launched a new initiative under which

the industry would commit to following standards on an extended range of communication channels. Turkey tightened its broadcasting regulations to restrict the advertising of food and beverages in programmes for children.

Chile's law on food labelling and advertising aims at limiting access to potentially unhealthy food for children, and covers advertisement on media, point-of-sale marketing, promotions and the school environment. The law is currently being implemented.

Key points

- The majority of the population, and one in five children, are overweight or obese in the OECD area. A nearly tenfold variation is observed across OECD countries, but existing data may not fully reflect the extent of the epidemic.
- The obesity epidemic has spread further in the past five years, but rates have been increasing at a slower pace than before. Obesity and overweight have been virtually stable in England, Italy, Korea, and the United States, but have increased in Australia, Canada, France, Mexico, Spain, and Switzerland.
- People with less education and lower socio-economic status are more likely to be obese, and the gap is generally larger in women. All education groups have seen an increase in obesity in recent years. The latest data show that social disparities persist, and have increased in some countries.
- A growing number of countries have adopted policies to prevent obesity from spreading further. Mexico has launched one of the most comprehensive government strategies to address the problem in 2013, including awareness-raising, health care, regulatory and fiscal measures.
- Several countries have developed multi-stakeholder frameworks, involving business and civil society actors in the development of public health policies. Evaluations of the effectiveness of these initiatives are only beginning to emerge.

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Useful links

OECD Obesity website:

www.oecd.org/health/fitnotfat

OECD Health: www.oecd.org/health

OECD Economics of prevention project:

www.oecd.org/health/prevention

OECD Obesity Update 2014:

www.oecd.org/health/obesity-update.htm

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