

# Obesity and the Economics of Prevention

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### The Obesity Epidemic



Source: OECD, Obesity Update 2014

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#### Obese Children Worldwide, age 5-19



Source: NCDRisC Collaboration, The Lancet, 2017.

#### Disease Burden from CDs and NCDs in G20 Countries

150M-HIV/AIDS & tuberculosis Diarrhea/LRI/other 100M NTDs & malaria DALYs Maternal disorders Neonatal disorders 50M Nutritional deficiencies Other group I **Neoplasms** 0 Cardiovascular diseases 28.364 0875 10-14 years 15-19 years 20-24 years 30.34 years 35-39 years AO-AA Years 45-49 years 50-54 years 1-27 0895 5.9 years 25:29 years 0.6 01245 1.4 years Chronic respiratory <u>Cirrhosis</u> **Digestive diseases** G20, Both sexes, 1990 Neurological disorders 150M Mental & substance use Diabetes/urog/blood/endo Musculoskeletal disorders Other non-communicable 100M DALYs Transport injuries Unintentional inj Self-harm & violence 50M War & disaster Source: IHME data 0 20-24 years 25-29 years 30.34 years AO-AA-YEars 45-A9 years 50<sup>-54</sup> years 35-39 years 5.9 years 10-1A years 15-19 years Avears 6 days Adays 1 0345

G20, Both sexes, 2015

55-59 Years

55.59 years

60<sup>-64</sup> years

65-69 years

10-74 years

15-19 years

80× Years

60-64 years

65-69 4 2315

10-14 years

15:19 years

80× Years

# **Overweight and Education**



Source: OECD Fit Not Fat 2010



# Obese People are Less Likely to Be Employed



Employment rate, age 50-59, in 2013, SHARE data Source: OECD/EU Health at a Glance Europe 2016

### Obese People are More Likely to Be on Sick Leave



Median number of sick days in last 12 months, age 50-59, in 2013, SHARE data Source: OECD/EU Health at a Glance Europe 2016 "Social Multiplier" Effects in Health-related Behaviours

Boys and girls having at least one obese parent are about three times as likely to be obese



# An Economic Case for Prevention?

- Market and rationality failure:
  - Externalities
  - Information failures
  - Supply-side market failures
  - Failures of rationality
- Existing policies have undesired effects
- Health inequalities

# Manipulation and Deception

- Argues that consumers are influenced by their choice environment to the limits of manipulation and deception
- Analysis of market equilibria should factor this in
- Additional cause of market failure



# Food Layout (Default)



# Health-related Behaviours

- Driven by social norms
  - Peer, social, family influences
  - 。 Commercial advertising

#### - Myopic, inconsistent time preferences

- Awareness of risk, but procrastination
- Perception of risk is generic, biased

#### - Habit-forming

- Decisions based on heuristics
- Large use of default options
- Rational addiction

What Policy Options?

- Increasing choice
- Information, education, influencing established preferences (nudging)
- Raising prices on unhealthy choices
- Banning unhealthy behaviours



#### Health Outcomes of Obesity Prevention (LYs & DALYs)



Source: OECD, Health Working Paper 48

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# Interventions Take Time to Produce Effects



Source: OECD, Fit not Fat, 2010

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# Food Taxes and Subsidies also Reduce Inequalities

Financial effects are likely regressive, but very small

- In US a 10% fat tax on dairy products would weigh 10 times more on household with an income of \$20,000 (0.24%) than on those with an income of \$100,000 (0.024%) (Chouinard et al., 2007)
- Difference would amount to \$19 vs. \$23 per year for a SSB tax, adding to welfare losses of 22 and 27 USD

(Zhen et al., 2013)

DALYs gained by age group Fiscal Policies (Food)



# A Comprehensive & Affordable Prevention Package

OECD Countries		Emerging Economies	
Mass media campaigns		Mass media campaigns	
Compulsory food labelling		Compulsory food labelling	
Industry self-regulation of food advertising to children		Government regulation of food advertising to children	
Physician-dietician counselling		Fiscal measures	
School-based interventions			
Canada	Europe	Brazil	China
24.03 \$/cap	22.45 \$/cap	0.40 \$/cap	0.20 \$/cap

# Years of Life Free of NCDs Through Obesity Prevention



Imperial College | Centre for Health Business School | Economics & Policy Innovation Source: OECD analysis

#### **Financial Impacts of Obesity Policies**



# Conclusions

- Obesity must be addressed by changing environments
- Policies should focus on addressing the social and economic consequences directly, not only by tackling obesity
- Prevention is an effective and cost-effective way to improve population health, decrease health expenditure and improve inequalities...
- ...but effects are limited and take time to materialise
- We are surrounded by data but still have major knowledge gaps