

REGULATORY OPTIONS FOR MOVING TO THE ELIMINATION OF SMOKING

Ron Borland PhD

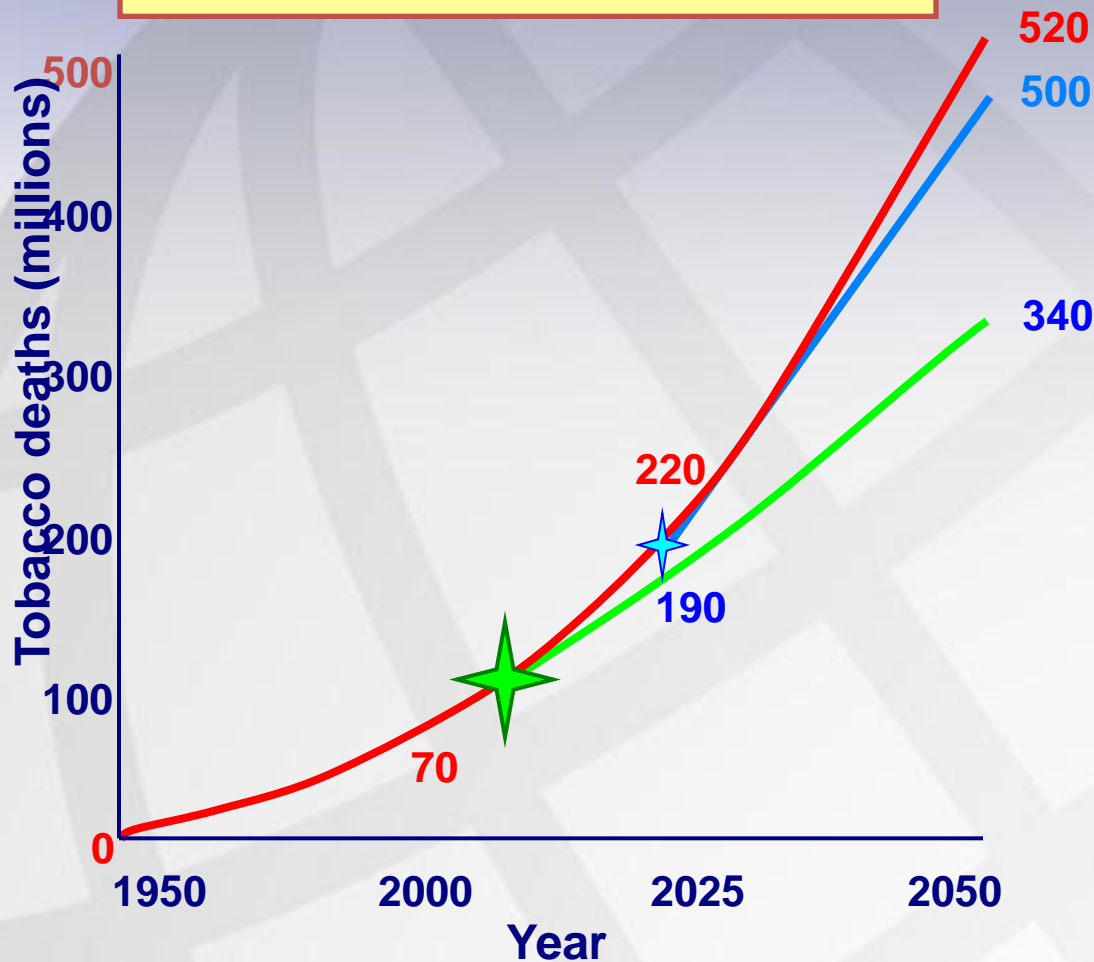


Tobacco Smoking

- Extremely harmful to health
 - Kills over half of long-term users
 - Reduces quality life years in most
 - Slows recovery from many conditions
- Harm mainly comes from combustion
 - Also toxins in tobacco and lung ingestion
- Is highly addictive
 - Nicotine is the drug, but addiction is bio-psycho-social
- Most consumer attractive form most harmful
- Important source of poverty

Potential of Policies to Flatten the Curve

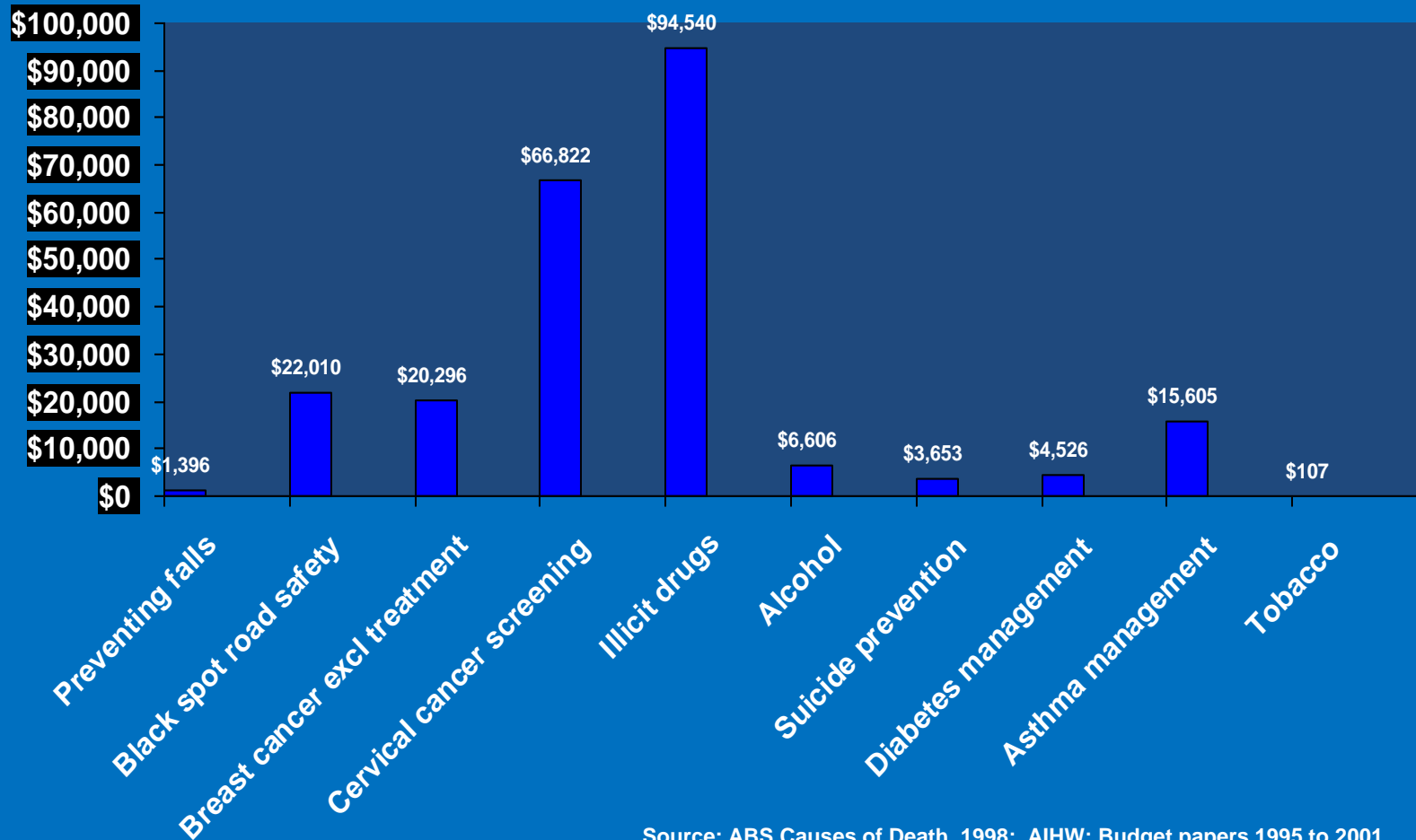
Estimated cumulative tobacco deaths
1950-2050



Impact of policies depends on two main factors:

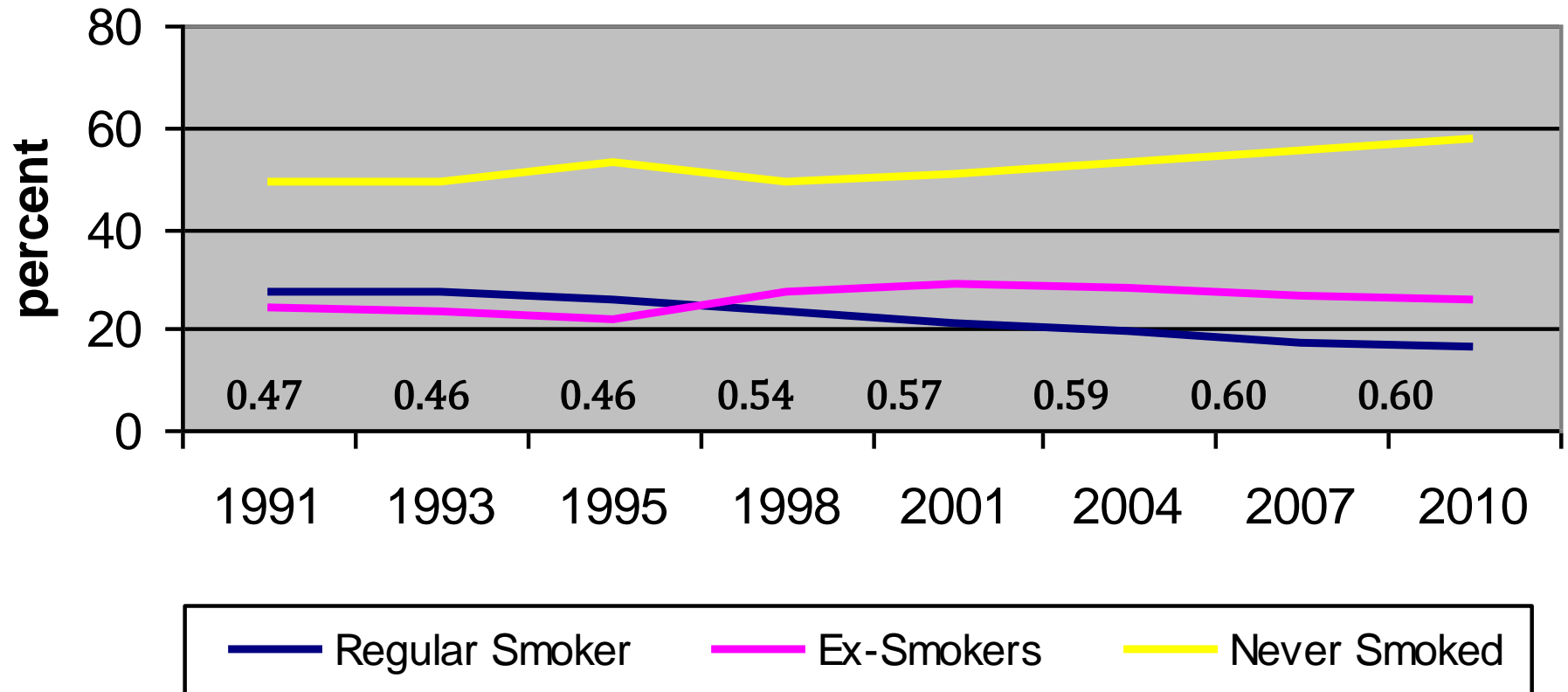
1. Intervention date
2. Effect size

\$s committed in Federal Budget per death per annum, various public health issues



Source: ABS Causes of Death, 1998; AIHW; Budget papers 1995 to 2001

Tobacco smoking status, people aged 14 years or older, 1991 to 2010. National Drug survey data



Quit ratios: $\text{Quit} / (\text{Quit} + \text{smoker})$

Tobacco: A systemic problem

- A creation of human institutions
 - Unlike the rat which brought the plague
 - Tobacco industry is more like Frankenstein's monster
- It is also a problem of human limitations
 - biopsychosocial
- We need to take into account both human fascination for drugs and the ways we provide them

Options for tobacco control

- More of the same
 - Slow incremental increase in restrictions
 - But progress may be slowing
- New Strategies
 - Increase pressures to reduce use
 - Less harmful forms of nicotine

Less harmful products

- Making low harm cigarettes has proved impossible
- Some forms of smokeless tobacco are low harm, but it is difficult to get smokers to switch
 - Little in way of research as to how to
- NRT probably lower harm, but until recently lower attractiveness, and inadequate substitute
- E-cigarettes: A potential solution???
- Long term nicotine use 1/10 to 1/100 of risks of smoking

What is an e-cig

- Currently a battery powered device that heats a solution of nicotine containing propylene glycol and when puffed on released a nicotine vapour, that gets some way towards the lungs
- New versions that use gas propellant and act more like an asthma inhaler
- All can be made to look like cigarettes, but also can be made to look quite distinct.

More about e-cigs

- By puffing on the e-cig vapour containing nicotine is taken in
 - Extent of lung uptake is uncertain
- Pattern of puffing may need to be different where an interval for heating to operational temperature is required.
- There are disposables and refillable versions
 - Refills typically come as cartridges
 - Also can be filled via a syringe from bottles of juice

They have become a consumer phenomenon

- Rapidly growing market
- One investment analyst has predicted the could surpass sales of cigarettes within 10 years
 - Merely based on commercial trends
- Lots of user groups springing up.
- However, in Australia
 - The delivery device is legal, but
 - The nicotine solution is not (S7 Poison).
 - Even so, seems to be a market for them

What should we do?

- Harm benefit ratio
- If smoking currently takes an average of 10 years off the life of a smokers, with the more than the half who die from smoking related causes (15000 in Australia) losing nearly 20 years.
- With complete switch and no increase in prevalence 150-1500 deaths per year
- If 60% prevalence 600-6000 deaths, still way less than smoking

Regulatory options

- Free enterprise solution
 - Plausible if nexus can be broken between consumer attractiveness and harmfulness
 - Possible for clean nicotine market
- Current constraints on free market
 - Imperfect, but sort of works
- Not-for-profit marketing
 - Theoretically ideal for harmful products where marketing encourages inappropriate use

A few other facts

- Evidence suggests addictiveness is positively associated with quality of hit
 - If e-cigs less hit than cigs, then likely to be easier to quit
 - But also likely to be better hit than smokeless
- Users have strong preferences around a consistent mode of delivery
 - Addicted to drug delivery mechanism, not drug
- Likely utility as a substitute for cigs highly correlated with potential to be used by current non-users

What don't we know?

- Lots, but most not all that critical
- The extent to which e-cigs are viable substitutes for smoking
 - If partially viable, could regulation move all or nearly all to them
 - eg if sale of cigs was highly restricted and more expensive
- Likely use among non-smokers
 - Likely proportional to attractiveness
- How harmful they are
 - Coffee level or alcohol level?

What is happening

- Research
 - Patterns of uptake and use
 - As cessation tool
 - As a potential substitute
 - Quit or substitute model (trial about to start here)
- Other countries
 - US looking to FDA
 - Currently allowed and proliferating
 - EU and Europe moving cautiously forward

Ensure basic safety

- Regulation to ensure not acutely harmful
 - Consider only allowing nicotine in disposables of cartridges
 - Standards for preventing overheating etc
 - Basic necessity
- Regulation as therapeutic substances
 - Control dose per puff?
 - First RCT for cessation due to report in September
 - Costly and will delay innovation
 - ? needed

Options

- Maintain the ban?
 - Possibly the biggest public health own-goal in history
- But if we allow: How?

Simply legalise and allow the market to deliver

- Quickest way to get uptake short of concurrent increased restrictions on cigarettes
- Maximise uptake by current non-users, especially ex-users and kids
- Of concern as long term risk profile is not certain
- Also may vary by mode of delivery (ie type of e-cig) and how it is used (eg extent of lung exposure)
- If it doesn't do for smokers, unlikely to do much for anyone else, so likely to be 10 day wonder
- Possibly acceptable, but certainly undesirable

Control promotion

- Prevent advertising to non-users
 - Especially ads promoting them as fun, sexy products
 - Desirable if at upper limits of harm possibilities
 - Questionable if at lower limits
 - Dependent on assessment of possible utility
- Prevention of use of flavours attractive to kids
- Price advantage over cigarettes
 - Desirable and can be achieved via tax

Control product and promotion

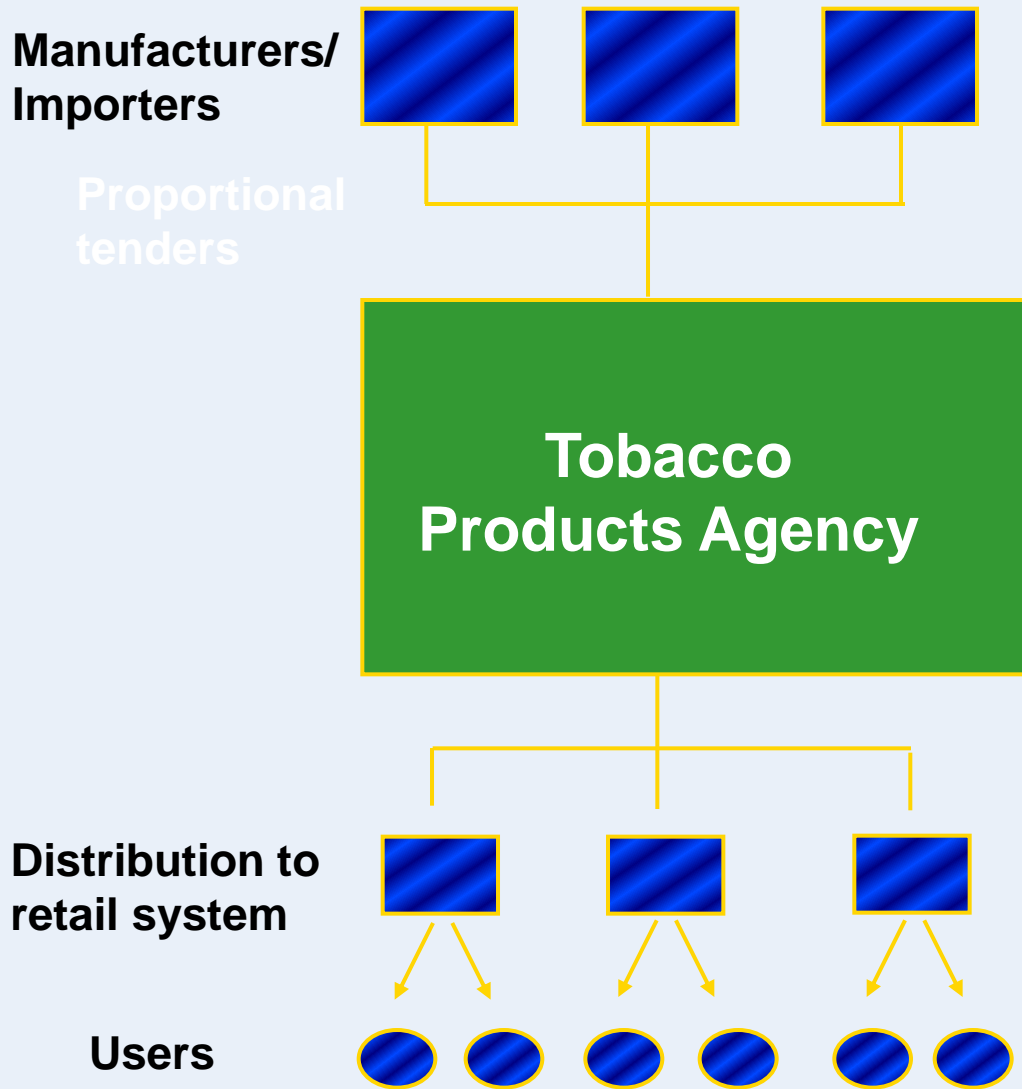
- Regulated market
 - Likely to be the optimal solution
 - But what is still under debate
- What controls over promotion?
- How far can we go to marginalise cigarettes?
- Ban sales of cigarettes or limit greatly?
- Allows for easier fine tuning of regulation when harms are better understood
- Need to find a way to allow some things without allowing their promotion

Two stage solution

- Eliminate smoked tobacco (as far as possible)
 - Using e-cigs and whatever
- Deal with lower harm forms after this
 - Strength a function of residual harms

May resolve conflict between harm reducers and those more concerned with drug use

Regulated market model



- **Tobacco controlled substance**
- **TPA meets demand**
- **Determines packaging**
 - **Generic**
- **Controls promotion**
- **Sets conditions for sale**
- **Controls price**
- **Incentives for harm reduced products**
 - **To make and to use**
- **Eliminate cigarettes**
 - **If suitable alternatives**