Dr Sarah Jones
Consultant in Environmental Health Protection
Public Health Wales
The evidence for 20mph: The ultimate PH intervention?

Dr Sarah J Jones

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Where we’re going....

- 12,000 years of roads
- Advantages – trade, development, communication
- Disadvantages – illness, disease
The challenge

Obesity / physical inactivity

Air pollution  Road safety

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What does road traffic do for us?

- Air pollution
- Road traffic injuries
  - Produces
  - Causes
- Social isolation / loneliness
  - Increases
- Physical inactivity
  - Encourages
- Noise
  - Exacerbates
- Inequalities
  - Creates
- Road traffic
  - Encourages
  - Increases

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### Burden of disease

<table>
<thead>
<tr>
<th>Cause</th>
<th>1990</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road traffic injury</td>
<td>396,000</td>
<td>311,000</td>
</tr>
<tr>
<td>Ambient air pollution (two thirds of total)</td>
<td>657,000</td>
<td>242,000</td>
</tr>
<tr>
<td><strong>ROAD TRAFFIC TOTAL</strong></td>
<td><strong>1,053,000</strong></td>
<td><strong>553,000</strong></td>
</tr>
<tr>
<td>Communicable, maternal, neonatal and nutritional disorders</td>
<td>1,196,000</td>
<td>919,000</td>
</tr>
</tbody>
</table>
Road traffic crashes.... Killing people since 1896...

"Such a thing should never happen again"

HM Coroner, 1896
The ultimate PH intervention?
The ultimate PH intervention?

HERE is where it starts to get really ugly.

RISK OF DEATH
<table>
<thead>
<tr>
<th><strong>Road traffic casualties</strong></th>
<th>Decreased crashes, pedestrian and child pedestrian injuries 17 to 70%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Air pollution</strong></td>
<td>Decreased gear changes 12%, braking 14% &amp; fuel use 12%, reducing transport emissions in residential areas by 12% NOx down 32% when avg speeds drop 31 to 19mph NOx down 48% with a calmer driving style; Acceleration accounts for 35-55% of pollutants Decreases in NOx emissions of 24-31%</td>
</tr>
<tr>
<td><strong>Active travel</strong></td>
<td>Walking and cycling up 12-25% (Bristol) Increased cycling to schools 3x (Edinburgh)</td>
</tr>
<tr>
<td><strong>Noise</strong></td>
<td>Decreased traffic noise 2dB</td>
</tr>
<tr>
<td><strong>Inequalities</strong></td>
<td>Narrowed, differences across areas equalised</td>
</tr>
<tr>
<td><strong>Social inclusion</strong></td>
<td>Increased</td>
</tr>
<tr>
<td><strong>Community cohesion</strong></td>
<td>Increased</td>
</tr>
<tr>
<td><strong>Local business viability</strong></td>
<td>Increased - people using active travel to visit shops spend more money</td>
</tr>
</tbody>
</table>
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Evidence

**Good Evidence**
- Reduced road traffic injuries
- Reduced noise
- Strong public support

**Some Evidence**
- Improved social cohesion
- Improved small business viability
- Improved physical activity
- Improved air quality
- Reduced community severance
- Reduced inequalities

**Evidence of Health Harms**
- No evidence of harms
Support for default 20mph speed limits

- Institute for Welsh Affairs
  - Re-energising Wales (Carbon Emission targets)
- RCPCH Wales
  - For safe places to walk, cycle and play
- NICE
  - To reduce injuries, obesity, premature mortality and improve air quality
- FPH
  - To improve the health of the population, reduce inequalities and shift from car based transport to active travel
- ADPH
  - To reduce inequalities, encourage active travel, increase physical activity and social inclusion
- BMA, RoSPA, Brake, WHO, OECD, ETSC
# Road traffic crash effects - Wales

<table>
<thead>
<tr>
<th></th>
<th>Total (£M)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Annual average in 30mph limits</strong></td>
<td></td>
</tr>
<tr>
<td>Casualties</td>
<td>4818</td>
</tr>
<tr>
<td>Costs</td>
<td>231.9</td>
</tr>
<tr>
<td><strong>Estimated annual average at 20mph</strong></td>
<td></td>
</tr>
<tr>
<td>Casualties</td>
<td>2830</td>
</tr>
<tr>
<td>Costs</td>
<td>137.8</td>
</tr>
<tr>
<td><strong>Savings</strong></td>
<td></td>
</tr>
<tr>
<td>Casualties</td>
<td>1988</td>
</tr>
<tr>
<td>Saving</td>
<td>94.2</td>
</tr>
</tbody>
</table>
## Air quality effects

<table>
<thead>
<tr>
<th>NO₂</th>
<th>Current</th>
<th>Deaths</th>
<th>YLL</th>
<th>Costs (£M)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>231</td>
<td>2768</td>
<td>£121.70</td>
</tr>
<tr>
<td>20mph</td>
<td></td>
<td>293</td>
<td>3521</td>
<td>£154.80</td>
</tr>
<tr>
<td>Change</td>
<td>Increase</td>
<td>63</td>
<td>Increase</td>
<td>£33.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PM₂.₅</th>
<th>Current</th>
<th>Deaths</th>
<th>YLL</th>
<th>Costs (£M)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>386</td>
<td>4629</td>
<td>£203.50</td>
<td></td>
</tr>
<tr>
<td>20mph</td>
<td>269</td>
<td>3230</td>
<td>£142.00</td>
<td></td>
</tr>
<tr>
<td>Change</td>
<td>Decrease</td>
<td>117</td>
<td>Decrease</td>
<td>£61.5</td>
</tr>
</tbody>
</table>
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Problems with showing effect of current approach

- Zones encourage speeding?
- Costs of changing the system road by road
- Difficult to encourage active travel when only part of the journey is protected

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It’s all about the drivers…

Anyone seen the “20s Plenty, where people live” signs all through? Am sorry love but if ur that scared of 30mph then you shouldn’t be driving.

Every driver should have a black box then like me because I’ve managed not to put any pedestrians at risk by driving at 30mph.

Duh, do you really think it’s about safety for the driver? Of course not its about the risk to pedestrians, (see safespeed.org.uk/killspeed.html) - especially when there are lots of stats showing the average speed thru is way over 30mph!

 Doesn't matter if turns into a 20 zone or not people without black boxes are gonna go whatever speed they like no matter what the speed is. Everyone should just have black boxes like me cause I've managed to not put any pedestrians at risk by driving at 30mph so far!
“I’m an older gentleman and since the speed limits were reduced to 20mph outside my house I feel much more able to get out and about”

Dot Davies, BBC Radio Wales, Phone-in on 20mph
The ultimate PH intervention?

Danny Dorling
Halford Mackinder Professor of Geography, University of Oxford

If you could do just one thing to reduce health related inequalities....?

“One of the cheapest and most effective methods for improving public health today”

“In contrast to how many die being struck by a car, cars almost certainly kill far more people through the pollution they cause, the exercise they rob us of and, possibly, also through the wars that are fought over the oil to power them. Reducing speeds from 30mph to 20mph is a small step towards mitigating these wider harms”
Pedestrian perspective…
Public Health Wales believes that lowering of the default speed limit to 20mph, from the current 30mph, in Wales would save lives and reduce injuries. The extent of this saving is sufficient to justify this change.

However, there are also likely to be benefits in terms of reduced noise and safer and more cohesive communities that are more pleasant to live in. People are also likely to be encouraged to walk or cycle more. This is supported by evidence that the majority of the public would welcome greater use of 20mph speed limits. The evidence suggests the potential for a wide range of public health benefits and few, if any, negative effects.
Acknowledgments

• Huw Brunt
• Chrissie Pickin, Jan Williams and the Board of Public Health Wales
Thank you for listening. Any questions?