



Alzheimer's Disease
International
The global voice on dementia



ADI webinar

Dementia risk reduction in the age of COVID-19

Monday 26 October 2020
08:00 EDT New York | 13:00 BST London |
00:00 AEDT Sydney

Welcome and introductions



Paola Barbarino
Chief Executive, ADI

ADI Emergency Appeal



**During this COVID-19 emergency period
please make a donation, however large or small,
to ensure we can continue to make a real difference.**

**ADI will continue to help people living with dementia
and their carers to live a better life during this emergency.**

DONATE NOW

<https://www.alz.co.uk/donate>

Agenda

- **Professor Gill Livingston, MD** – Professor of Psychiatry of Older People, Division of Psychiatry, Faculty of Brain Sciences, UCL. *In discussion with Paola*
- **Diana Blackwelder** – dementia advocate and Board Member of Dementia Alliance International (DAI), US
- **Sonia Desuza** – a carer from the British Virgin Islands
- Brain gym session with ADI's Regional Director for Asia Pacific, DY Suharya

Agenda

- **Professor Craig Ritchie** – Chair of the Psychiatry of Ageing and Director of the Centre for Dementia Prevention, University of Edinburgh
- **Nina Renshaw** – Policy and Advocacy Director, NCD Alliance
- **Dr. Melinda Power** – Assistant Professor and Director in the Department of Epidemiology and the Director of the GWU Institute for Neurocognition and Dementia in Aging (INDA)
- **Polls**
- **Question & answer session**

Professor Gill Livingston, MD



Professor of Psychiatry of Older People, Division of Psychiatry, Faculty of Brain Sciences, UCL

Lead author of the Lancet report on dementia risk reduction



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Lancet commission and Dementia Prevention

Gill Livingston @gill_livingston

More dementia as more older people – 2050 rising to 132 million. Particularly in LMIC

- incidence in some but not all countries decreased
- so dementia is potentially but not inevitably preventable
- Mechanisms thought to be
 - cognitive reserve
 - Reduction in damage
- Potential to do even more in underserved populations





Twelve risk factors

Early life

- Less education



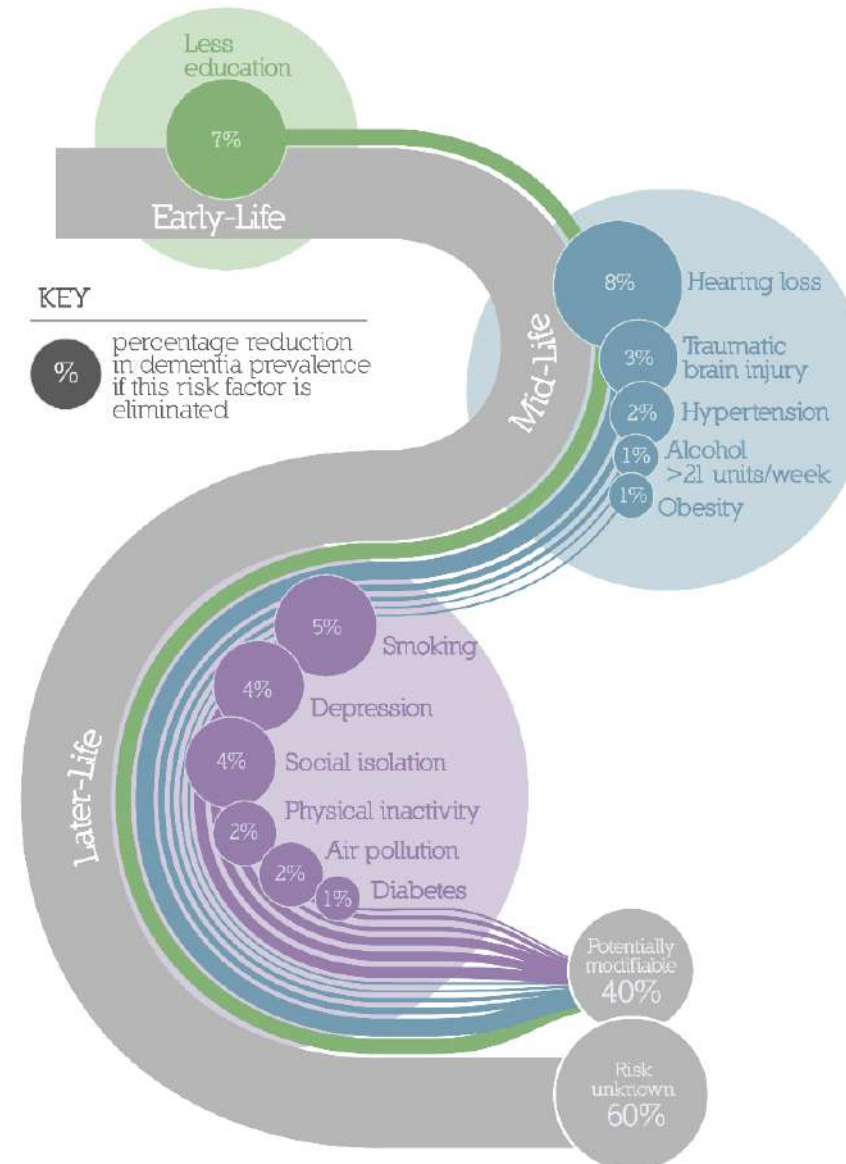
Mid life (45-65)

- Hypertension
- Obesity
- Peripheral hearing loss
- Traumatic Brain Injury
- Excessive alcohol

Late life (>65)

- Smoking
- Depression
- Physical inactivity
- Air Pollution
- Social isolation
- Diabetes

Population Attributable Fraction- 40%

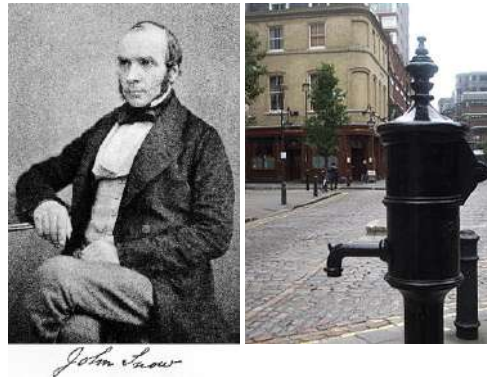




- **Be ambitious about prevention**
- Trials, short and small number of people, may disappoint.
- Results from cognitive reserve modification for whole populations or high risk populations are more hopeful.
- Policy changes may be most powerful



Hand washing to prevent puerperal fever



John Snow Broad St pump: Clean water sources to prevent cholera



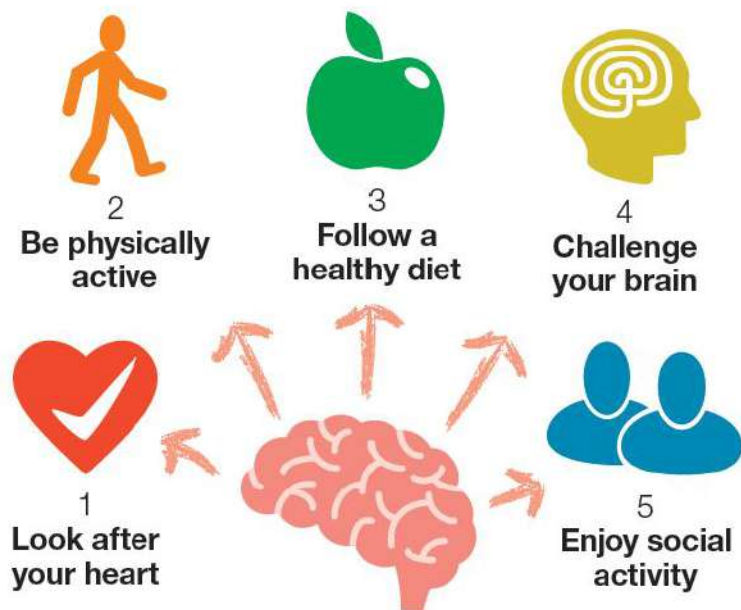
Jonathan Mann at WHO Use of condoms to prevent AIDS WHO 1987

Thank you for your attention

2014

Dementia

Can we reduce the risk?



2020



Source: Livingston et al. A, et al. Dementia prevention, intervention, and care: 2020 report of the Lancet Commission

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Professor Gill Livingston in conversation with Paola Barbarino



"Our ambition is for worldwide provision of resources for an adequate level of wellbeing to people with dementia and their carers with a better evidence base to guide individual care and policy making alike."

Dementia prevention, intervention, and care:
2020 report of the *Lancet* Commission

THE LANCET

The best science for better lives

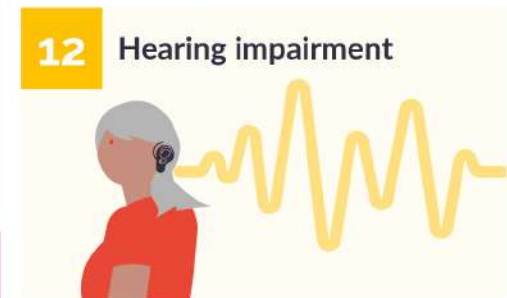


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12 dementia risk factors



Source: Livingston et al. A, et al. Dementia prevention, intervention, and care: 2020 report of the Lancet Commission

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Diana Blackwelder



Dementia advocate from the US

Board Member of Dementia
Alliance International (DAI)



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Sonia Desuza



Carer for her mother who has dementia from the British Virgin Islands



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Brain gym session



DY Suharya, Regional Director for Asia Pacific, ADI

Song: Kuingin (I want) by Andi Rianto, Indonesian Composer

Contributed for Alzheimer's Indonesia risk reduction program



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Professor Craig Ritchie



Chair of the Psychiatry of Ageing
and Director of the Centre for
Dementia Prevention, University
of Edinburgh



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**Is there much we can do to
reduce our individual risk of
dementia?**

Nina Renshaw



Policy and Advocacy Director,
NCD Alliance



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**To what extent do you think
there's a need for policy action
to tackle the risk factors?**



Does COVID-19 risk derailing progress on risk reduction for dementia and NCDs?

ADI Webinar, Monday 26 October 2020

‘Dementia risk reduction in the age of COVID-19’

Nina Renshaw

Policy and Advocacy Director, NCD Alliance

nrenshaw@ncdalliance.org



Common risk factors, common systemic challenges

Social and Commercial Determinants

DISEASES



Cardiovascular Disease



Chronic Respiratory Diseases



Cancer



Diabetes



Mental and Neurological Conditions

RISK FACTORS



Unhealthy Diet



Tobacco Use



Harmful Use of Alcohol

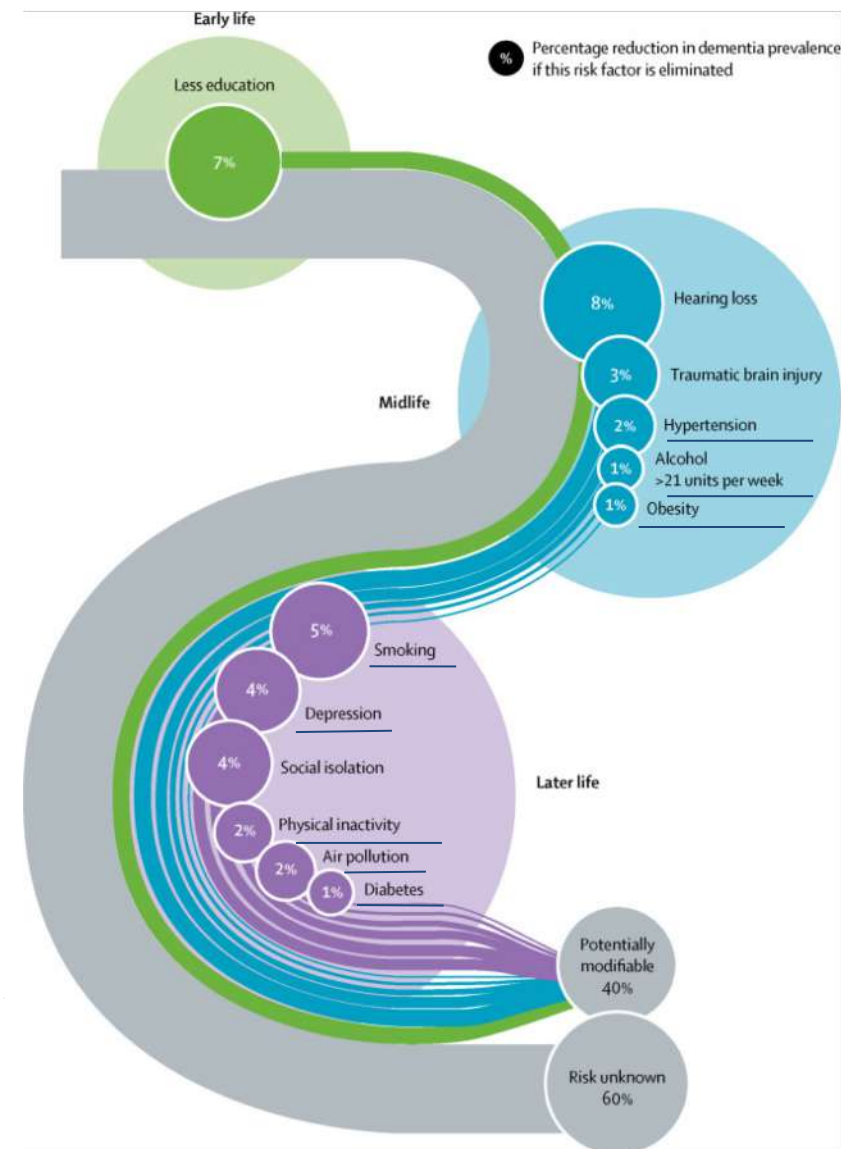


Physical Inactivity



Air Pollution

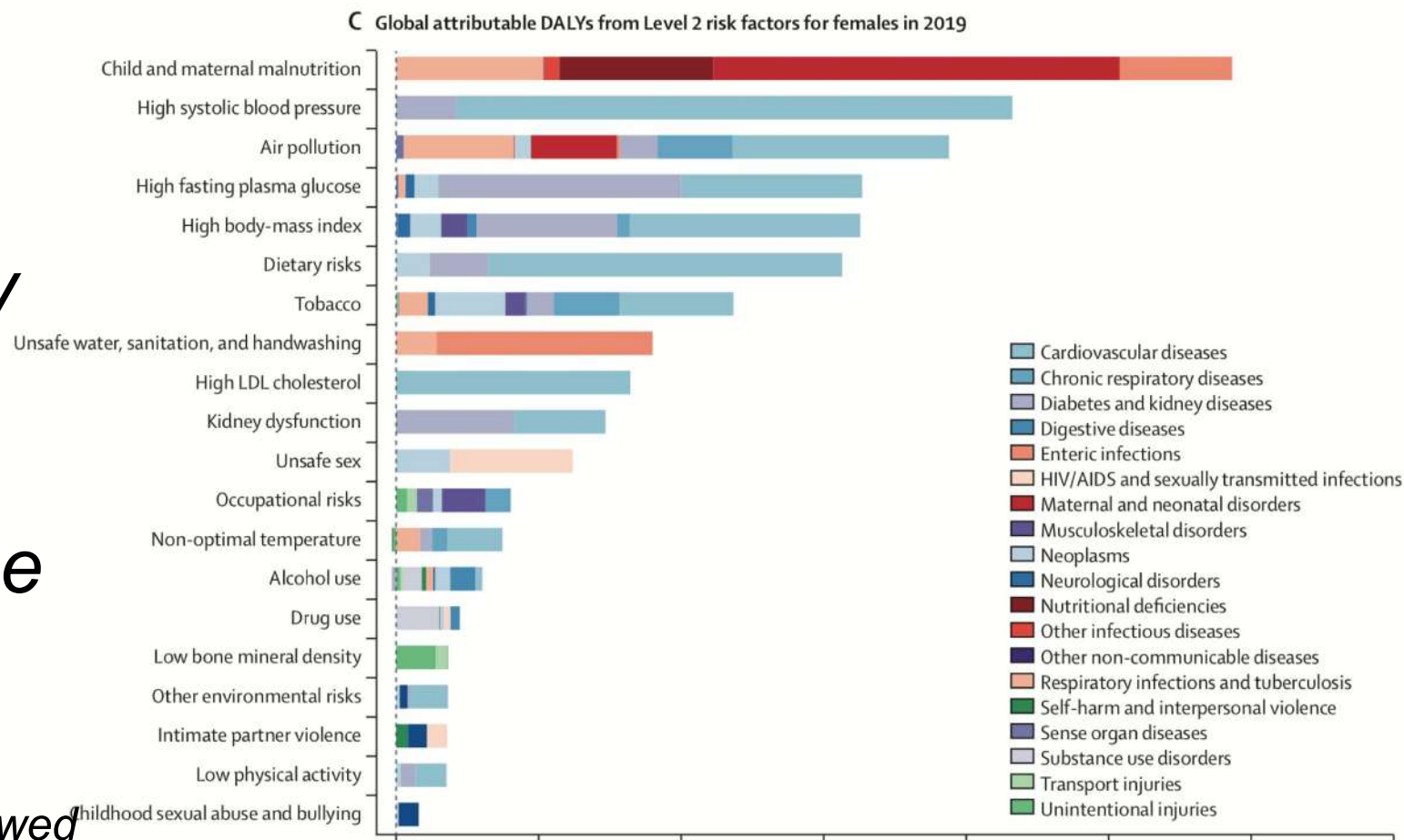
Inadequate health systems, treatment, care



2020 IHME Lancet Global Burden of Disease study

"Because of the way people are trained, governments are very often focusing on the problems of the last generation and not the current one"

IHME Director, Chris Murray interviewed by NPR, USA

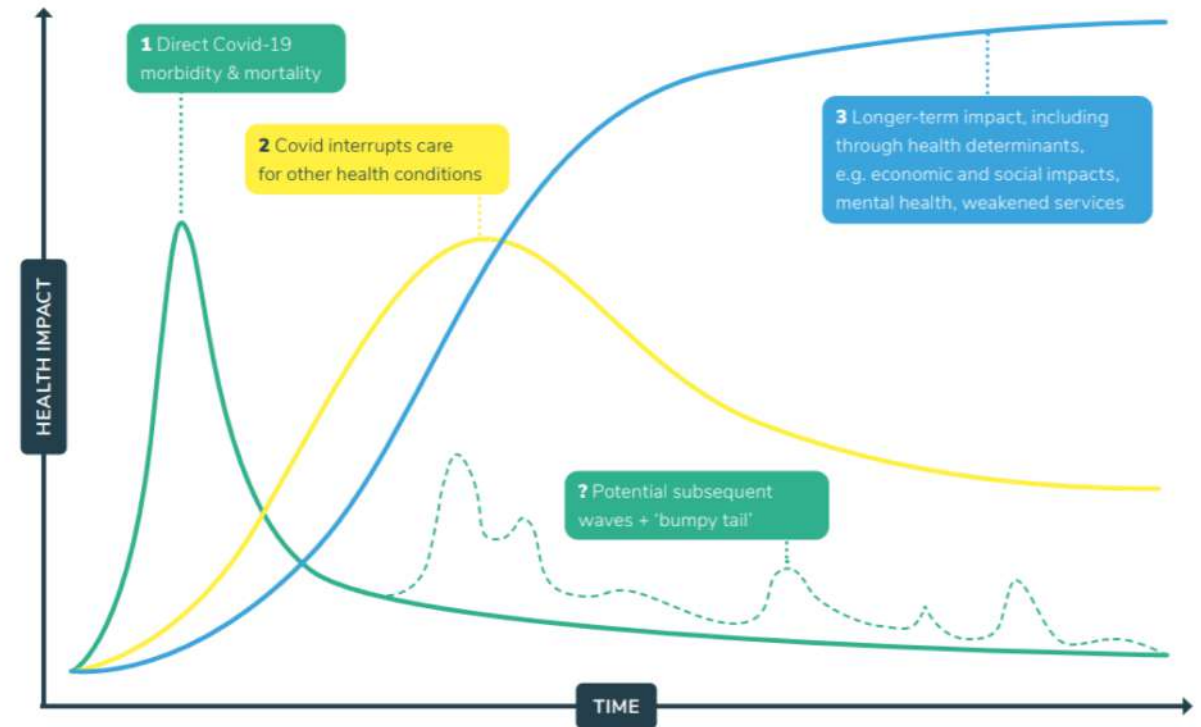


Source: [Global burden of 87 risk factors in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019](#)

New urgency and challenge for UHC: COVID-19

The ‘syndemic’ of NCDs and COVID-19:

- PLWNCDs at a higher risk of severe disease and complications.
- Healthcare disruptions: WHO surveys show 75% of countries reporting major disruptions to NCD care; 93% of countries for mental health services.
- Risk of “Long-COVID” complications and comorbidities.
- Risk factors related to policy responses: Mental health impacts, access to nutritious food, reduced physical activity, exposure to unhealthy commodity advertising and promotion (tobacco, alcohol, junk food, etc).
- Economic impacts: Estimated to drive half a billion more people into poverty.



Source: [UHC2030 \(2020\) Discussion paper on health emergencies and UHC](#)

New political attention to NCDs and UHC due to COVID-19

“The disruption to health systems threatens to unwind decades of progress against maternal and child mortality, HIV, malaria, tuberculosis, noncommunicable diseases, mental health, polio and many other of the most urgent health threats.”

“COVID-19 is not just a global health emergency, it is a vivid demonstration of the fact that there is no health security without resilient health systems, or without addressing the social, economic, commercial and environmental determinants of health.”



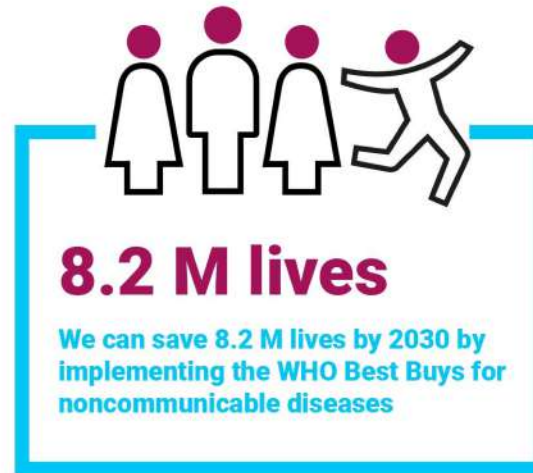
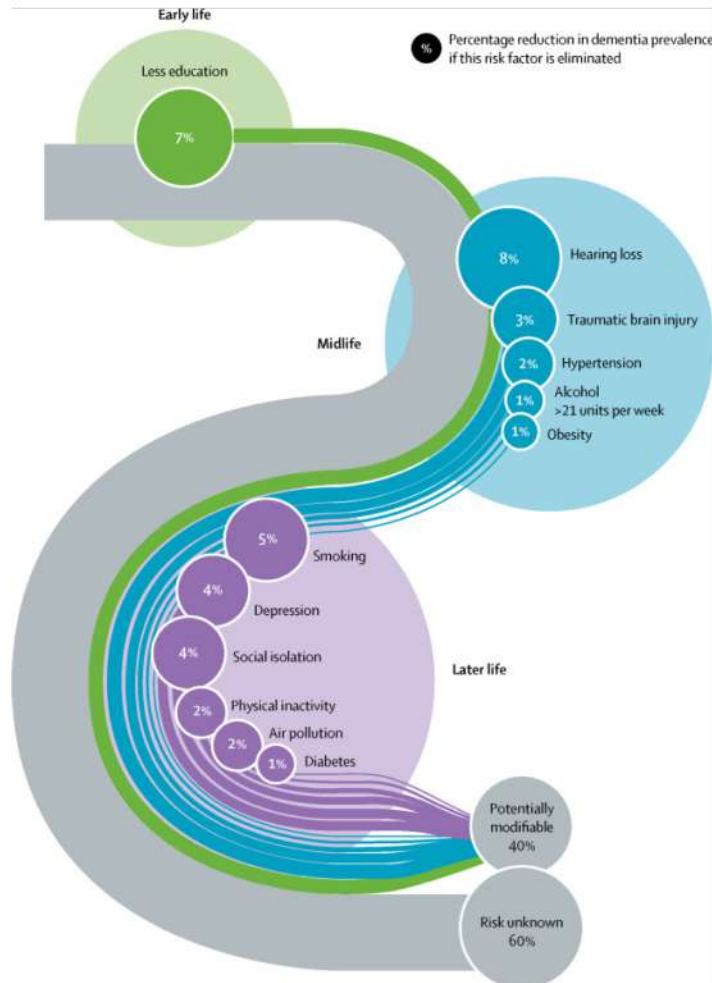
Dr Tedros Adhanom Ghebreyesus, WHO Director General,
73rd World Health Assembly, 18 May 2020

“Even with the pandemic we must not drop the ball on those other global health priorities that are critical to our overall development. I refer specifically to the chronic NCDs – the silent killers (diabetes and cardiovascular disease, hypertension)... For our populations, these challenges remain real and continue to present a silent but real and present danger”.

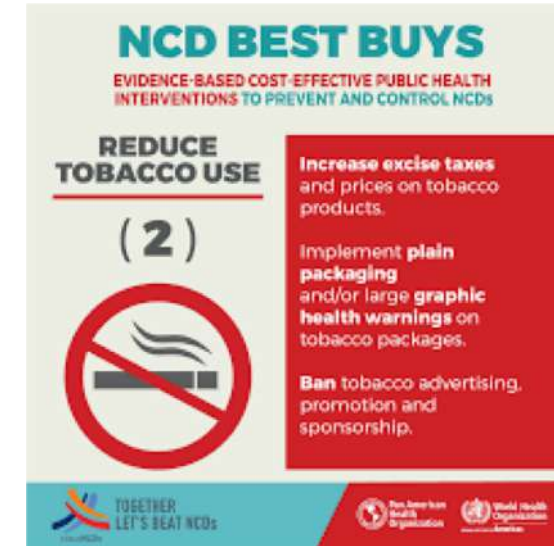


Honourable Mia Mottley, Prime Minister of Barbados, Address at the
73rd World Health Assembly, 18 May 2020

A stronger case for policy change and investment



Saving lives, spending less



THANK YOU

SHARE. DISCUSS. ENGAGE. CHANGE.



#NCDs @ncdalliance



MAKING NCD PREVENTION AND CONTROL A PRIORITY, EVERYWHERE

Dr. Melinda Power



Assistant Professor and Director
in the Department of
Epidemiology and the Director of
the GWU Institute for
Neurocognition and Dementia in
Aging (INDA)



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Were you surprised to see air pollution listed as a risk factor for dementia?

Air pollution as a risk factor for dementia

Melinda C. Power

ADI Webinar

Dementia Risk Reduction in the Age of COVID-19

October 26, 2020

Milken Institute School
of Public Health

THE GEORGE WASHINGTON UNIVERSITY



What is Air Pollution?



Attribution: [Tokyoahead](#) at [English Wikipedia](#)

- Particulate Matter (PM)
- Nitrogen Oxides (NO_x)
- Sulfur Dioxide (SO₂)
- Carbon Monoxide (CO)
- Ground-level Ozone (O₃)
- Volatile Organic Compounds (VOCs)
- Lead (Pb)

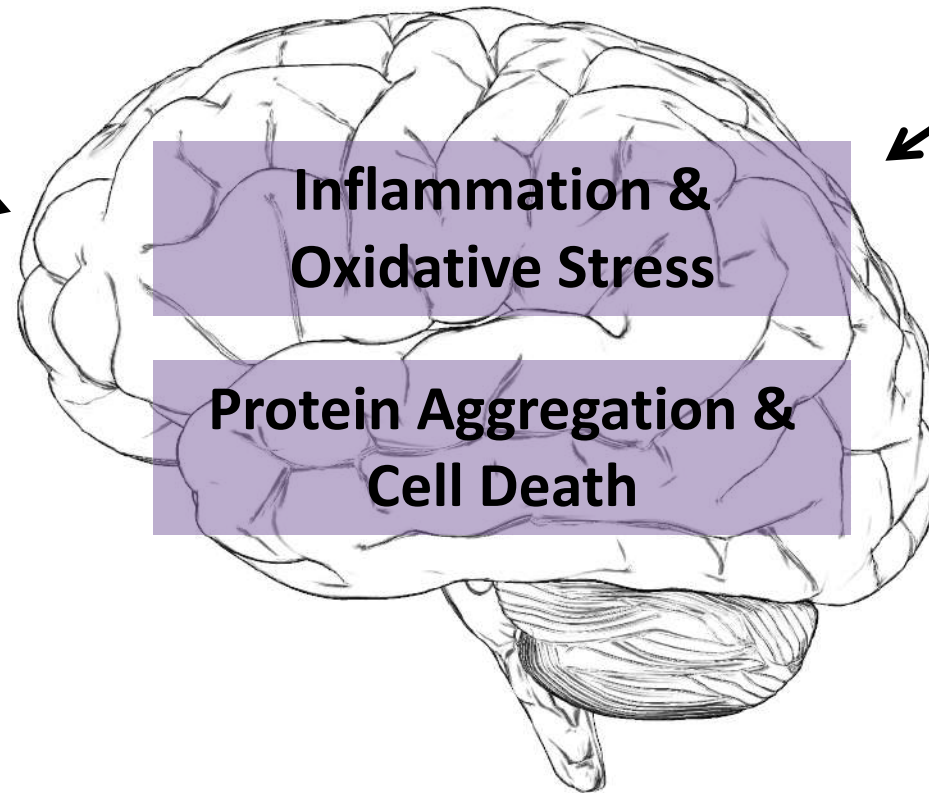
Where Does it Come From?

- Power Plants & Industrial Processes
- Cars & Trucks
- Construction & Agriculture
- Natural Sources

How Could Air Pollution Cause Dementia?

Direct Effects

**Air Pollutants
Reach The Brain**



Indirect Effects

**Cardiovascular
System**



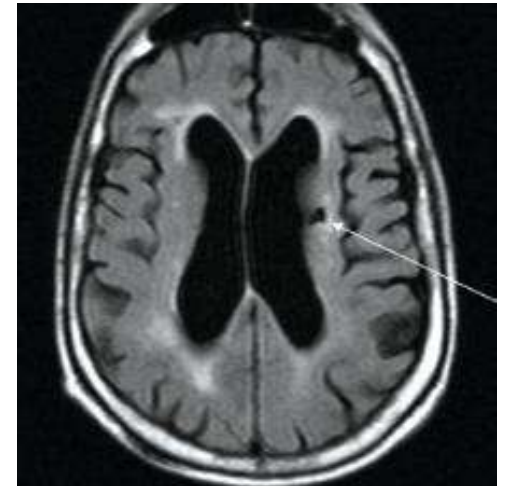
**Systemic
Inflammation**



Adapted From Block & Calderon-Garciduenas (2009) Trends in Neuroscience

What Evidence Do We Have That Air Pollution Causes Dementia?

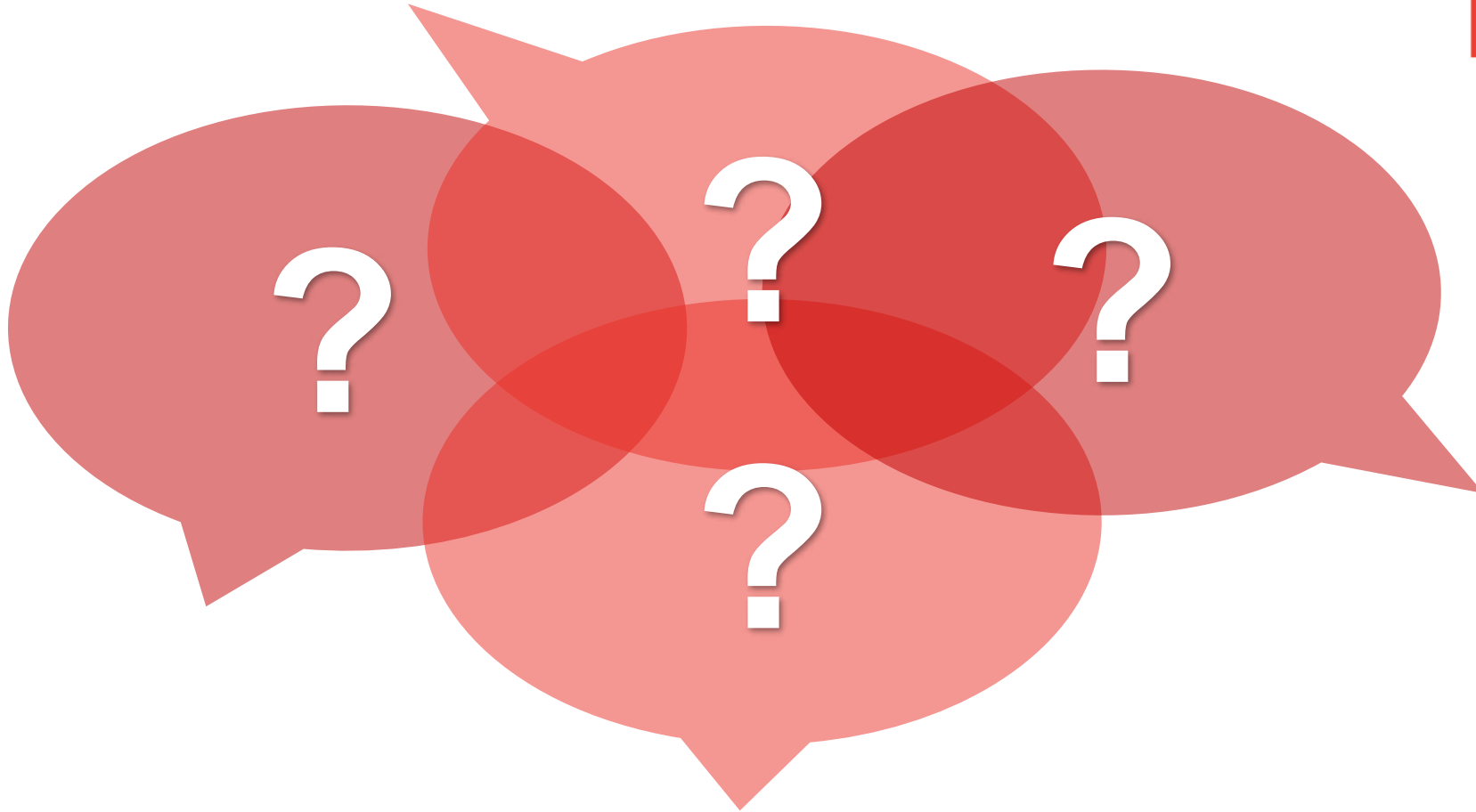
- People who have lived in areas with more air pollution appear to have worse cognitive health in late-life
 - This doesn't mean all air pollutants are equally related to dementia
 - Most studies look at particulate matter air pollution



What's Next?

- We know air pollution has other health effects
 - Established effects on heart health and respiratory health
- Air pollution can be reduced through governmental regulation or industry commitment
 - Can have large impact on health
 - More effective than individual-level efforts
- Other pollutants may also be related to brain health
 - Plausible, but less scientific work thus far

Question and answer



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Hope In The Age Of Dementia.

NEW SCIENCE. NEW KNOWLEDGE. NEW SOLUTIONS.

10-12 December 2020
VIRTUAL CONFERENCE



**VIRTUAL
2020**

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