

Air pollution and their health effects in Mongolia

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Mongolia



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Environmental pollution across the lifespan in Mongolia



Winter street scene in Ulaan Baatar

Mongolia: rapid transitions and cultural changes



Article 5.2 of the Mongolian Law on Child Rights (1996) states

that a child has a right to grow up healthy, live in safe environment and be free from violence

Children and air pollution

MONGOLIA'S AIR POLLUTION CRISIS



Distal Socio
economic
causes

Proximal
causes

Physiological and
pathophysiological
causes

Outcomes

Living in
ger districts

young
maternal age

low maternal
education

Air pollution

Tobacco
Use

severe malnutrition

Suboptimum breast feeding

Pneumonia

Reduced lung
function

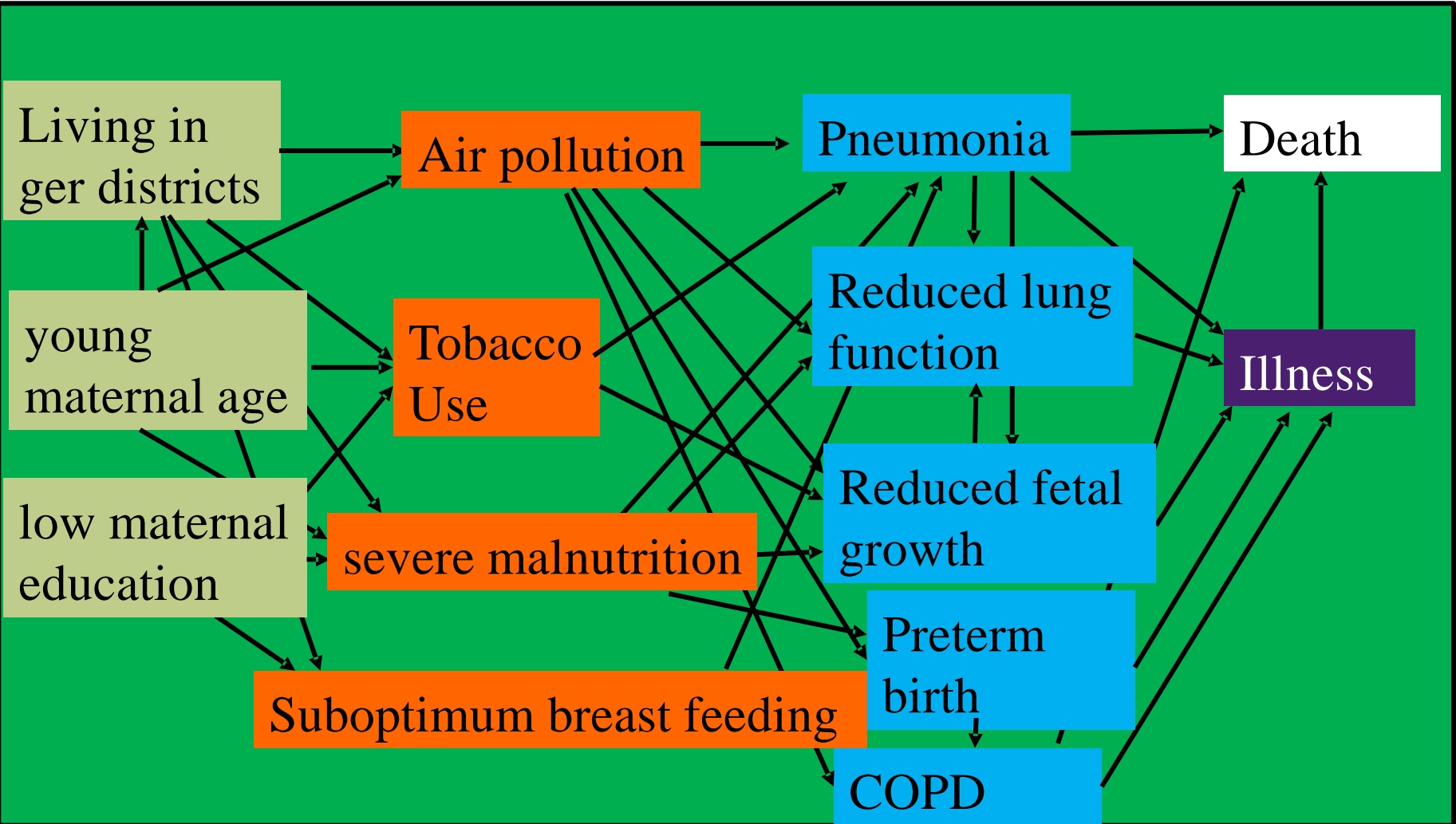
Reduced fetal
growth

Preterm
birth

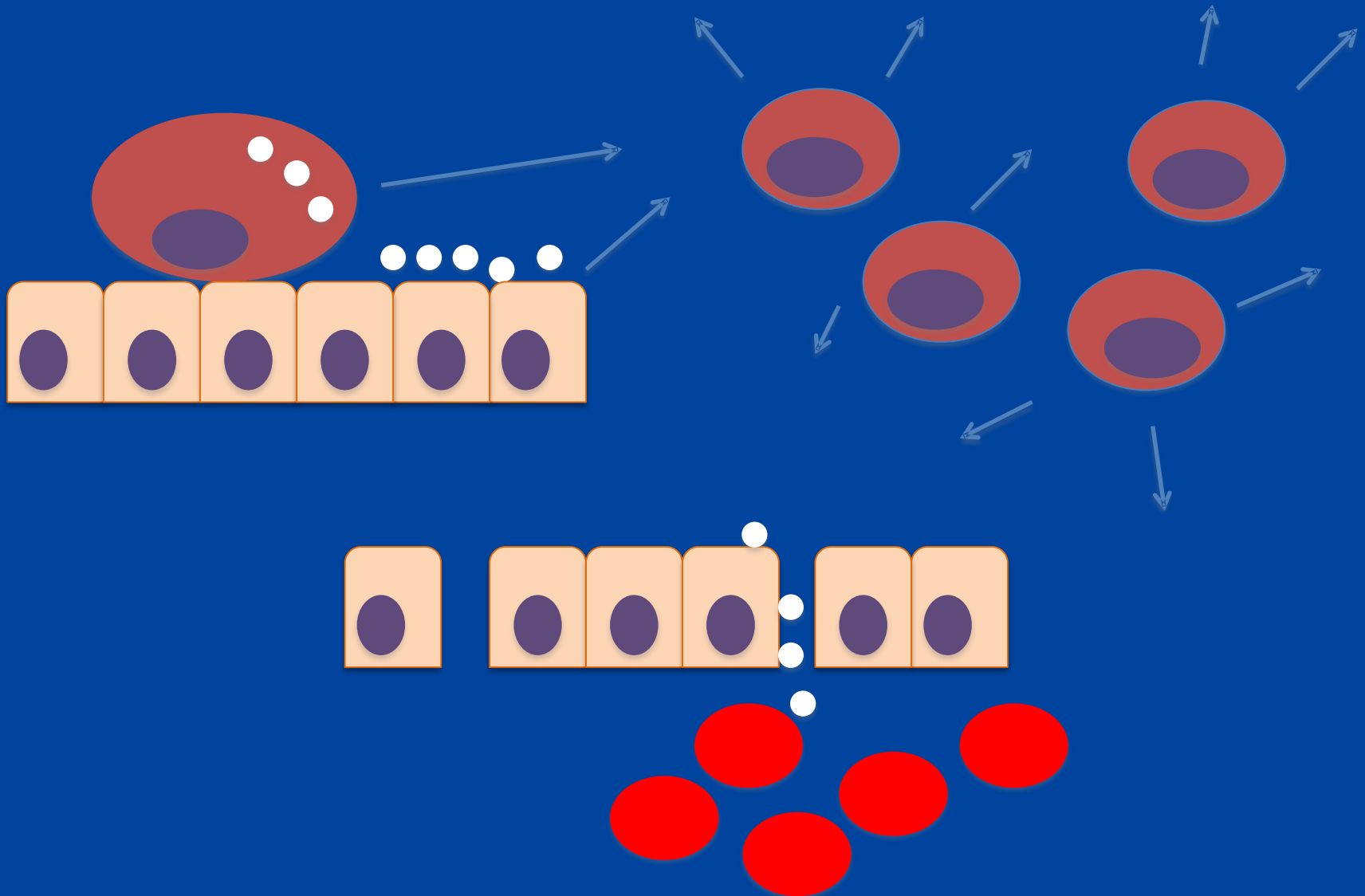
COPD

Death

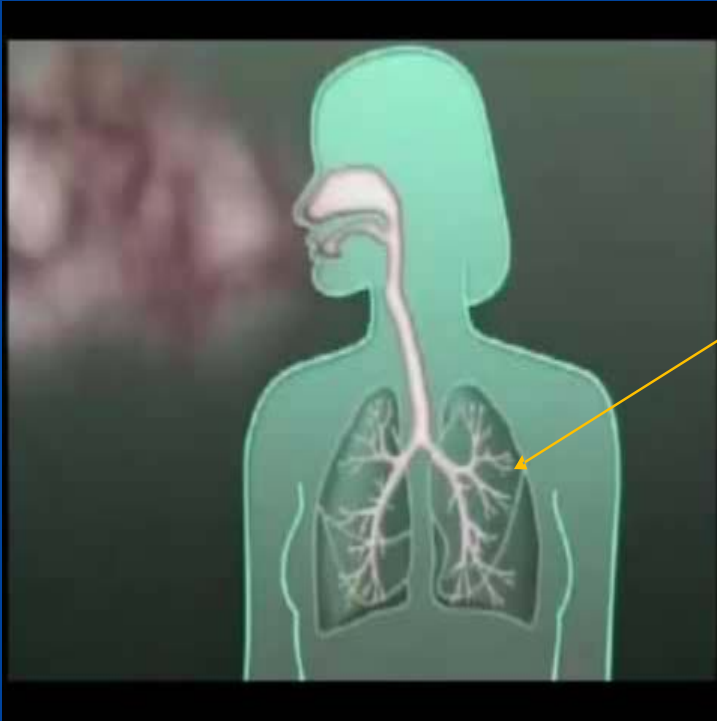
Illness



How do particles do harm?



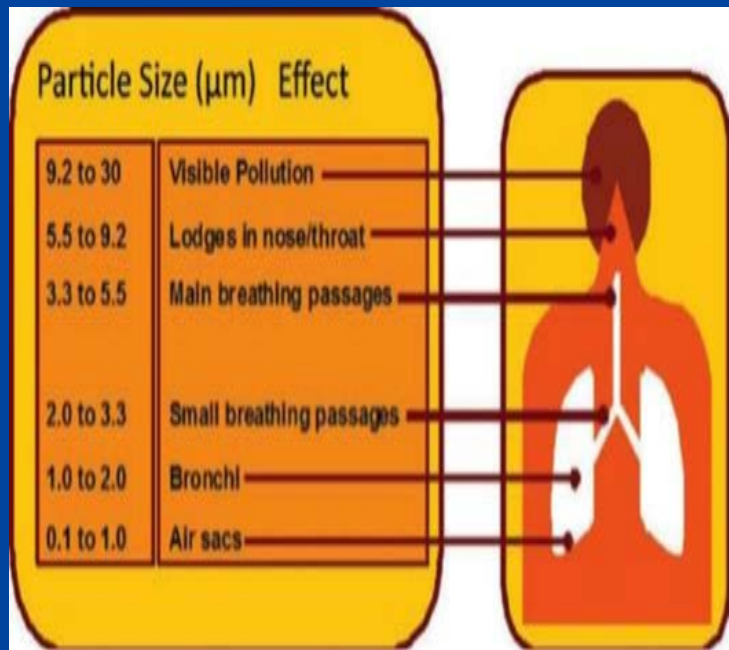
Risk factors for childhood pneumonia



Smaller particles pass further down into lungs

- Air pollution
 - Outdoor – fuel smoke, motor car emissions
 - Indoor – fuel smoke, tobacco

What types of air pollution?



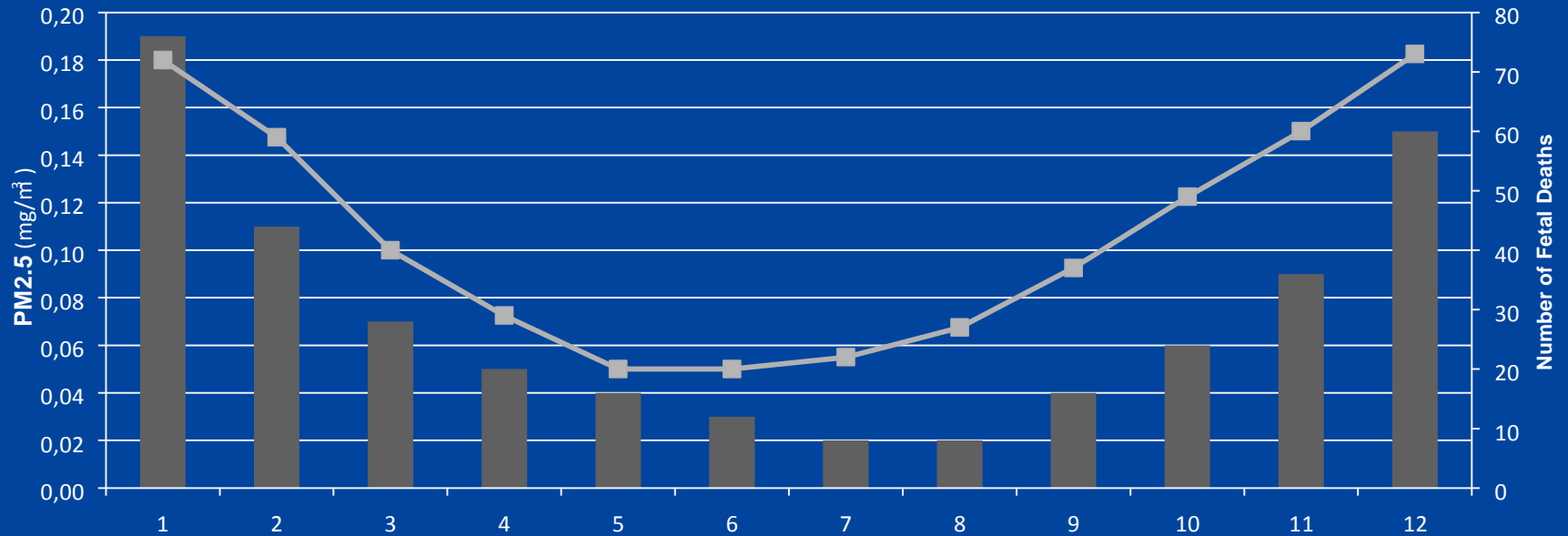
The people of Ulaanbaatar are currently exposed to annual average concentrations of fine particulate matter (PM_{2.5}) over 7 times higher than the WHO international health-based guidelines established to minimize morbidity and mortality risk



Air pollution affects the health of people profoundly, and of children in particular. UNICEF and partners are scaling up activities in Mongolia to address the causes and effects of the pollution.

PM2.5 and Fetal Deaths

R = 0.92



Calendar Months, January-December, 2011



PM2.5



Fetal Deaths

Health impacts

A joint research team of Mongolia and Canada estimated in 2011 that 29% of cardiopulmonary deaths and 40% of lung cancer deaths in the UB city are attributable to ambient air pollution.

CONCLUSION

- Ulaanbaatar is one of the most polluted cities in the world's coldest capital city.
- The health impact of the most vulnerable populations, the mother and child, is even more harmful.
- Further studies need to be done to examine possible correlations between personal exposure to air pollutants and pregnancy loss.
- Unless major new initiatives are taken, these exposures will increase slowly over the next ten years with little progress in health impacts in total or on a per capita basis.

What should we do next?

We needed the monitoring and screening techniques it's to help better understand how combinations of air pollutants influence human health effects and to determine which ones are the most toxic or require urgent study.

Blue sky Mongolia





БАЯРЛАЛАА
(*bayar-lalaa*)

THANK YOU



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MONGOLIA

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