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REGIONAL OFFICE FOR THE **Americas**

SIMPOSIO REGIONAL OPS/OMS

"Agua y Saneamiento en la Agenda 2030: La Ruta para el Desarrollo Sostenible"
Cartagena, Colombia. Local: Hotel de Las Américas

18 al 20 de agosto de 2016. **Previo al XXXV Congreso de AIDIS.**

La salud ambiental y los Objetivos de Desarrollo Sostenible



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Environmental burden of disease



PREVENTING DISEASE THROUGH HEALTHY ENVIRONMENTS

A global assessment of the burden of disease from environmental risks

WHO Regional Office for the Americas



ENVIRONMENTAL IMPACTS ON HEALTH

WHAT IS THE BIG PICTURE?

FACT:

23%

of all global deaths are linked to the environment.

That's roughly 12.6 million deaths a year.



WHERE IS IT HAPPENING?



INCLUDED

Included factors are the modifiable parts of:

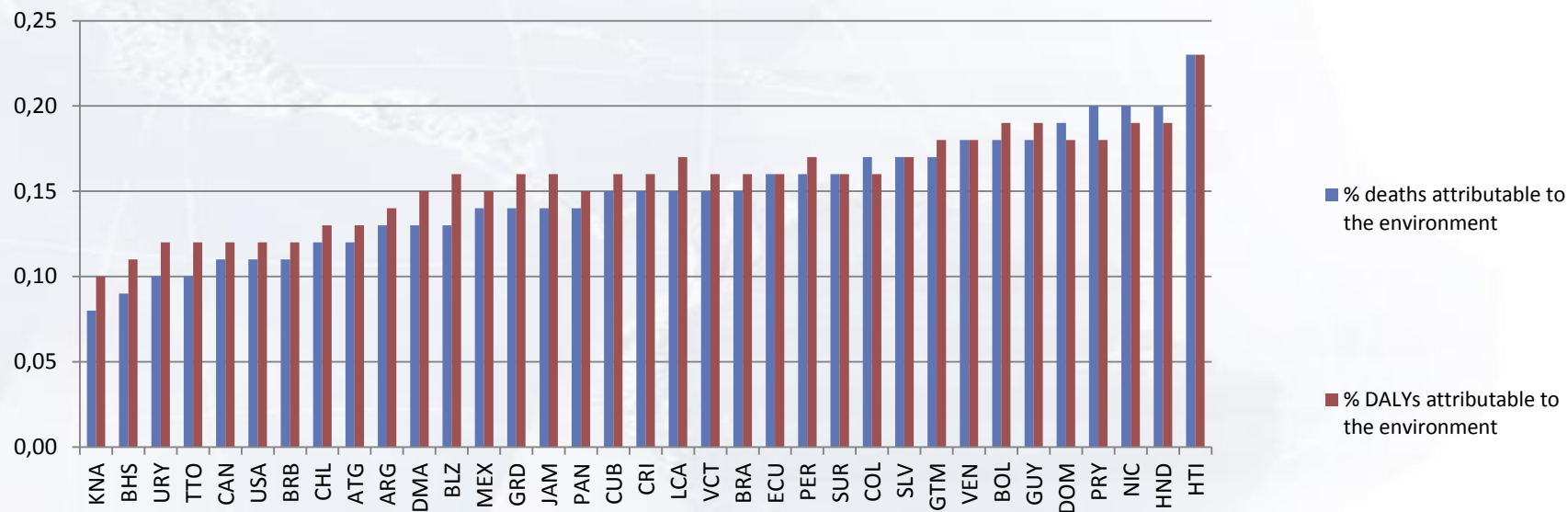
- Pollution of air (including from second-hand tobacco smoke), water or soil with chemical or biological agents
- Ultraviolet (in particular, protection from) and ionizing radiation
- Noise, electromagnetic fields
- Occupational risks, including physical, chemical, biological and psychosocial risks, and working conditions
- Built environments, including housing, workplaces, land-use patterns, roads
- Agricultural methods
- Man-made climate and ecosystem change
- Behaviour related to environmental factors, e.g. the availability of safe water for washing hands, physical activity fostered through improved urban design

EXCLUDED

Excluded factors are:

- Alcohol and tobacco consumption
- Diet (unless linked to environmental degradation)
- The natural environments of vectors that cannot reasonably be modified (e.g. wetlands, lakes)
- Insecticide impregnated mosquito nets (for this study they are considered to be non-environmental interventions)
- Unemployment (provided it is not related to environmental degradation, occupational disease, etc.)
- Natural biological agents, such as pollen
- Person-to-person transmission that cannot reasonably be prevented through environmental interventions, such as improving housing, introducing sanitary hygiene or making improvements in the occupational environment

Carga de enfermedades de los riesgos ambientales en las Americas



Las diferencias entre los países ~ 3 veces para la mortalidad y ~ 2 veces por AVAD:

8 al 23% de las muertes atribuibles a los riesgos ambientales

10 a 23% de los AVAD atribuibles a los riesgos ambientales

Para las enfermedades no transmisibles:

la mortalidad estandarizada por edad varía de 35 (Canadá) a 163 y 176 / 100.000 per cápita de Guyana y Haití, respectivamente;

Los años de vida vividos con discapacidades (DALYs) por edad estandarizada / 100.000 per cápita difiere hasta tres veces entre los países

Proyecto en desarrollo :



Medir el progreso de los Objetivos de Desarrollo Sostenible (ODM) en las Américas:
Indicadores de Salud Ambiental



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Objetivo

- Teniendo por base la lista de indicadores propuestos por la ONU y la experiencia en la salud ambiental de los países de la Región de las Américas, evaluar las fortalezas y deficiencias de la capacidad regional, y discutir metodologías para medir el progreso hacia el logro de los ODS relacionados con salud ambiental en la región. Estos indicadores deben estar vinculados a los temas prioritarios de salud pública regional y de acuerdo con los mandatos de la OMS / OPS.



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Indicadores de Salud y Ambiente de la OPS

- Agua
- Saneamiento
- Uso de combustibles solidos
- Contaminacion del aire
- Seguridad quimica
- Cambio climatico

- Otros: RSI, Disastres, Lesiones
- *El 2016, % uso de biomassa incluido en los indicadores basicos de la OPS



Provisional Agenda Item 4.1

Off Doc. 345 (Eng.)
1 September 2013
ORIGINAL: ENGLISH

**STRATEGIC PLAN OF THE PAN
AMERICAN HEALTH ORGANIZATION
2014-2019**

"Championing Health: Sustainable Development and Equity"



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SUSTAINABLE DEVELOPMENT GOALS

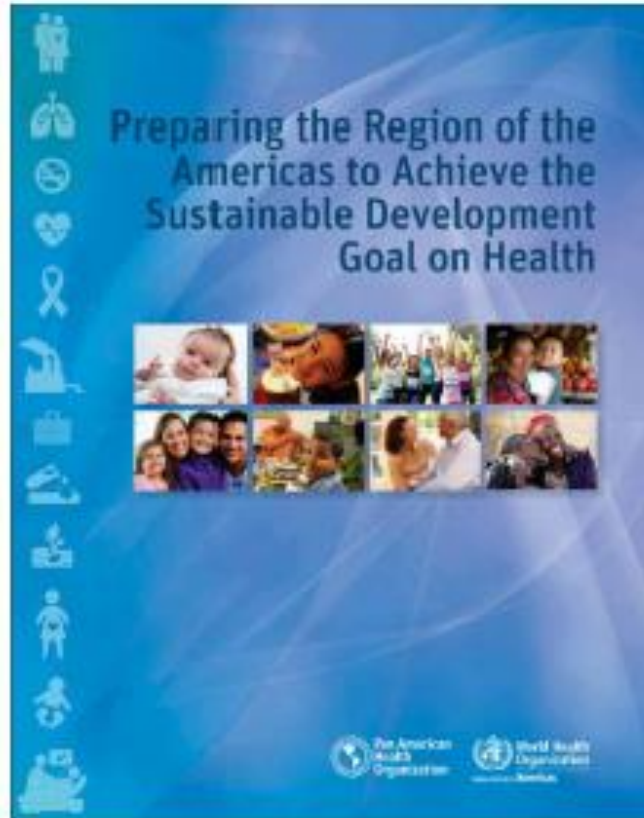


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The Secretariat responses to the Directive Council roundtable:



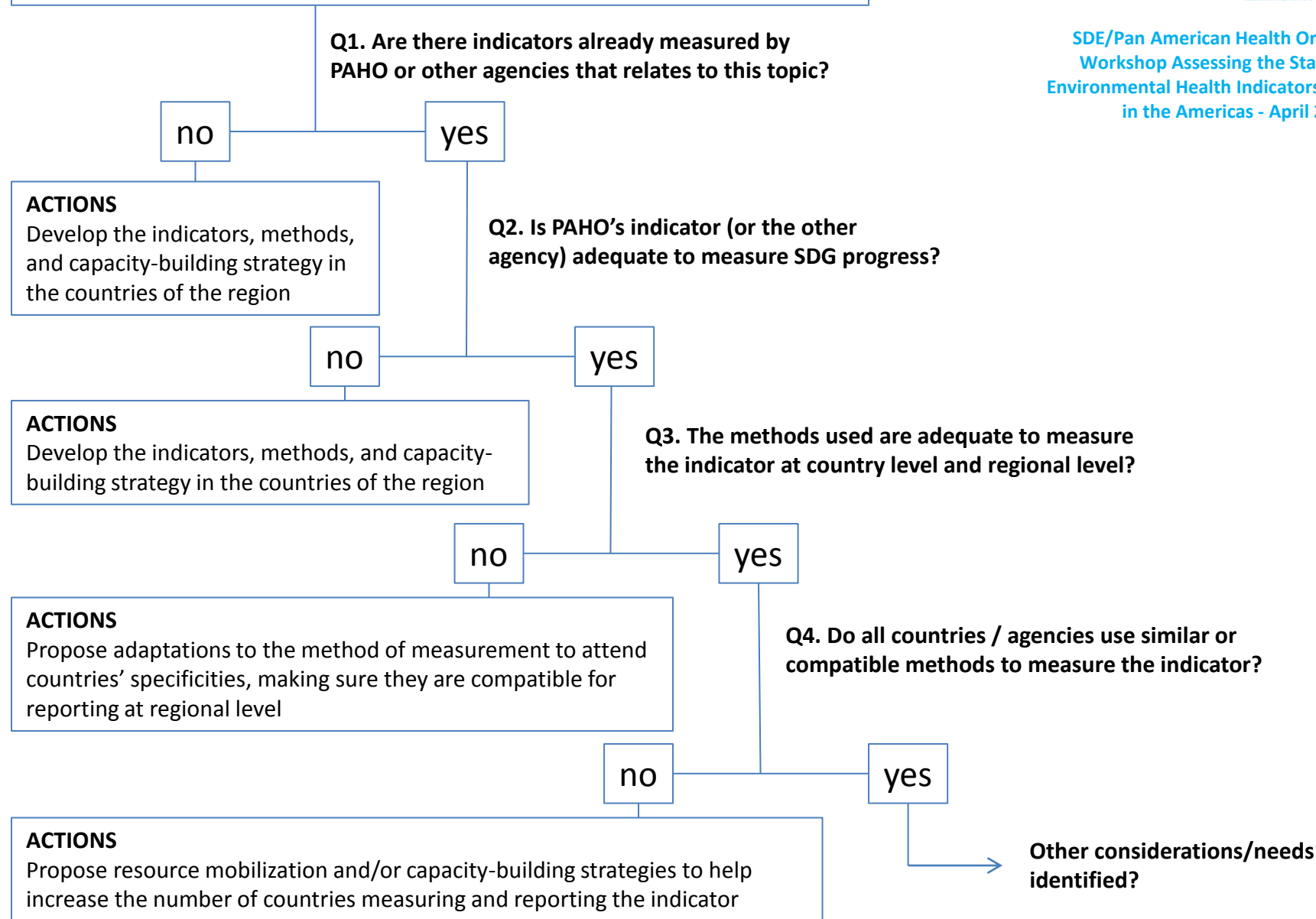
Analysis of the Connections between SDG 3 Targets and Means of Implementation and PAHO's Strategic Plan 2014-2019
(Impact Goals and Targets, Categories, Program Areas, Outcomes, and Outcome Indicators)

UN Sustainable Development Goals	PAHO Strategic Plan 2014-2019*				
	Impact Goals and Categories	Program Areas and Outcomes	Impact Goal Targets or Outcome Indicators	Baseline 2012†	Target 2019 (Baseline+)
3.1 - By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births	Impact Goal 3 – Drive safe motherhood		3.1 At least an 12% reduction in the regional Maternal Mortality Ratio (MMR) achieved by 2019	48.7 per 100,000 live births (2016)	43.6 per 100,000 live births
			3.2 A relative gap reduction of at least 25% in the MMR between the top and bottom country groups of the Health Needs Index (HNI) by 2019 compared to 2014		
			3.3 An absolute reduction of at least 28 excess maternal deaths per 100,000 live births between 2014 and 2019 across the HNI country gradient.		
	Category 1 – Communicable Diseases	Program area 1.1 HIV/AIDS and STIs OCM 1.1 Increased access to key interventions for HIV and STI prevention and treatment	OCM 1.1.3 Number of countries and territories with at least 95% coverage of syphilis treatment in pregnant women	0	22
	Category 2 – Determinants of Health and Promoting Health throughout the Life Course	Women, Maternal, Newborn, Child, Adolescent, and Adult Health, and Sexual and Reproductive Health OCM 2.2 Increased access to interventions to improve the health of women, newborns, children, adolescents, and adults	OCM 2.2.2 Percentage of deliveries attended by trained personnel	96%	97%

Decision tree to be used in the exercise with **each** UN SDG Indicator considered priority for environmental health



SDE/Pan American Health Organization
Workshop Assessing the Status of the
Environmental Health Indicators for the SDGs
in the Americas - April 2016



Workshop: Assessing the Status of the Environmental Health Indicators for the Sustainable Development Goals (SDGs) in the Americas



Focus on some Environmental Health indicators

→ 9 Goals, 20 Targets, 33 indicators*

*26 indicators if considering that disaster-related indicators are repeated in SDGs 1, 11 and 13

SDG	# of Indicators	Brief description of topics
1 – No Poverty	3	Disaster preparation, mitigation and adaptation
2 – Zero hunger	1	Sustainable agriculture (Chemicals)
3 – Good health and well-being	5	NCDs, Air Pollution, WASH Services, Chemicals, Int. Health Regul.
4 – Quality education	1	Schools/WASH program
6 – Clean water and sanitation	6	Water-related issues (Dr M. Pardon will address)
7 – Affordable and clean energy	1	Clean fuels and technology (Air Pollution)
11 – Sustainable cities and communities	9	Housing, Disasters (SMART hospitals), Solid wastes, Air Pollution, Green Urban spaces
12 – Responsible consumpt. & product.	2	Hazardous chemicals
13 – Climate action	5	Climate change preparation, mitigation and adaptation plans & funding (UNEP will address)

Quieres colaborar?

Sitio colaborativo (necesita invitation) – favor contactar a soaresag@paho.org

[HTTPS://COLLABORATION.PAHO.ORG/EHI/SITEPAGES/HOME.ASPX](https://collaboration.paho.org/ehi/sitepages/home.aspx)

Como reducir la carga de enfermedades atribuibles a los ambientes insalubres en las Americas?

Abordar las vulnerabilidades en la salud publica

Agnes Soares, SDE PAHO/WHO



La contaminación del aire es un problema prioritario de salud pública

- 152.000 muertes atribuibles a la contaminación del aire ambiente en las Américas en 2012 (OMS, 2014)
- 80.000 muertes atribuibles a la contaminación del aire del hogar en ALC para el año 2012 (OMS, 2014)
- representa la contaminación del aire por alrededor de 1 de cada 8 muertes en general
- Contribuye de manera significativa a las enfermedades no transmisibles: cáncer, enfermedades cardiovasculares, enfermedades pulmonares obstructivas crónicas y asma
- Contribuye de manera significativa a las infecciones respiratorias bajas



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WHO Air Quality Guidelines

	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	
Nivel 1	70	35	Riesgo de mortalidad 15% > AQQ
Nivel 2	50	25	Riesgo de mortalidad ~ 6% < Tier 1
Nivel 3	30	15	Riesgo de mortalidad ~ 6% < Tier 2
AQG	20	10	Nivel minimo donde se han observados efectos para la salud

WHO Air Quality Guidelines, update 2005

http://www.who.int/phe/health_topics/outdoorair/outdoorair_aqg/en/

WHO guidelines for indoor air quality: household fuel combustion

<http://www.who.int/indoorair/publications/household-fuel-combustion/en/>

Enfermedades asociadas con la contaminación del aire

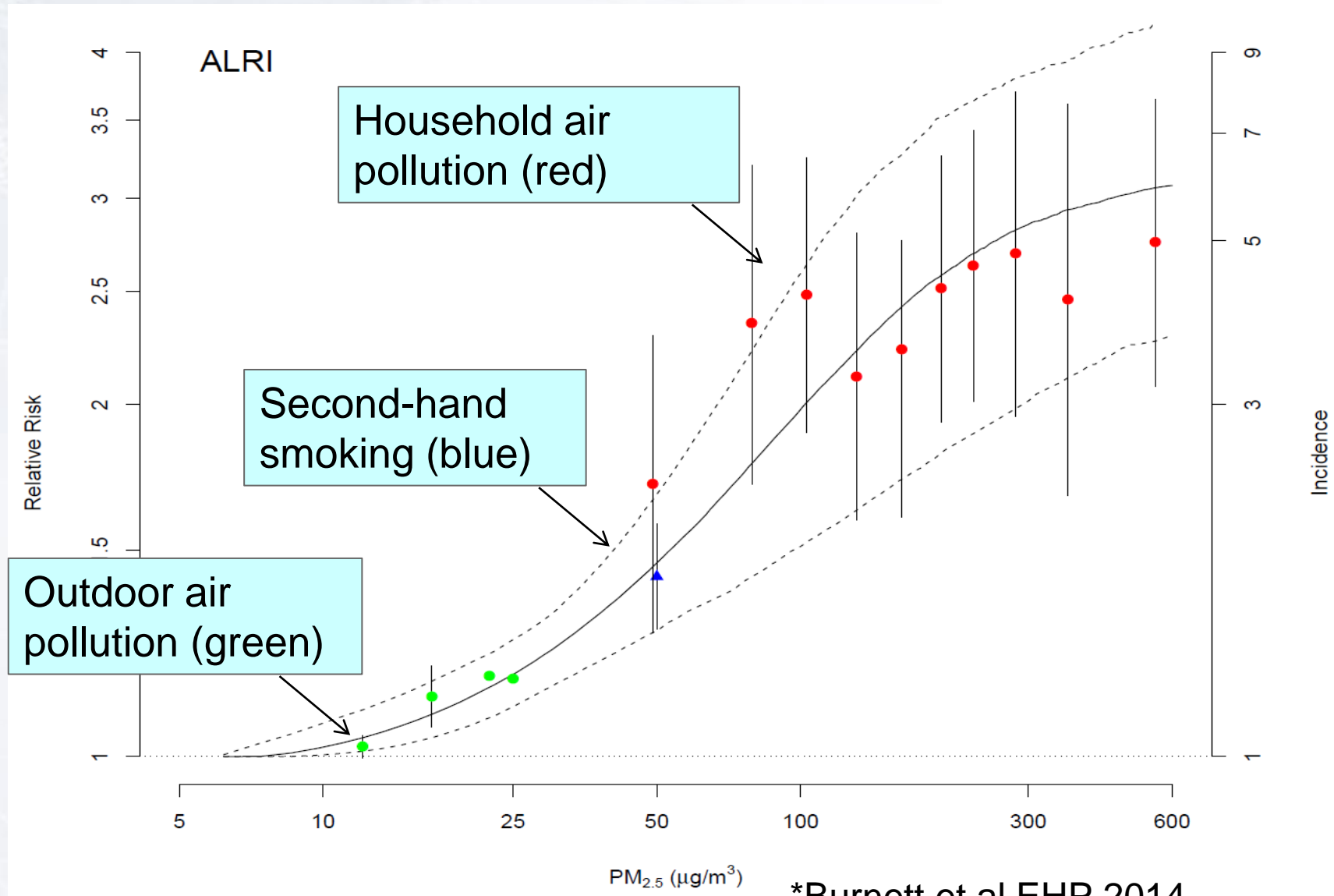
Disease	RR (95% CI) women	RR (95% CI) men
ALRI	2.9 (2.0-3.8) for children	
COPD	2.3 (1.7- 3.1)	1.9 (1.2- 3.1)
Lung cancer	2.3 (1.5-2.8)	1.9 (1.4-2.3)
IHD	(1.4-2.2)	(1.4-2.2)
Stroke	(1.4-2.4)	(1.3-2.4)

Balakrishnan K et al. Environmental Health, 2013,12:77;

Burnett R et al., Environmental Health Perspectives, 2014,Vol. 22:4;

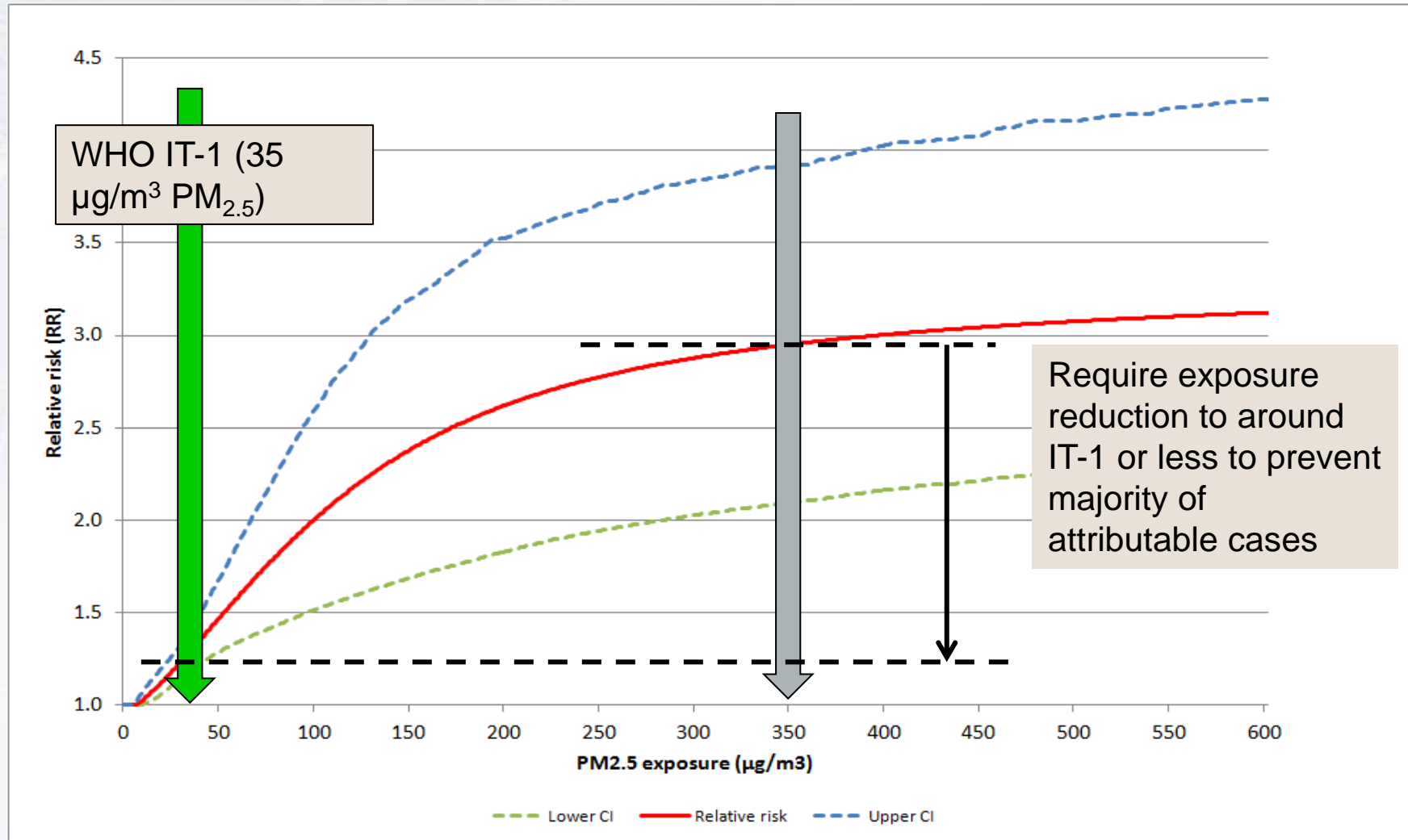
Smith K, Bruce N et al. Annu. Rev. Public Health, 2014, Vol. 35;

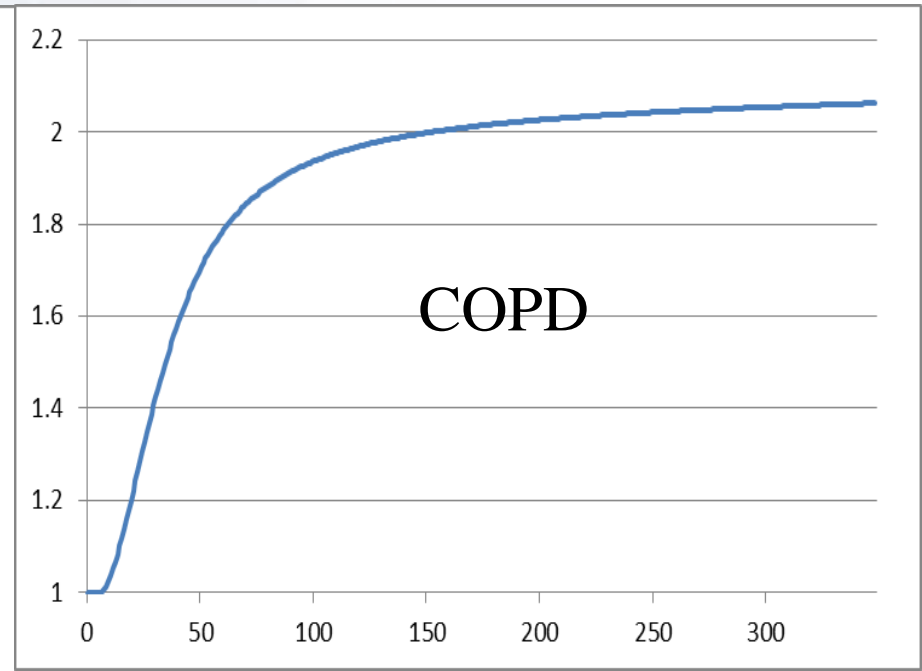
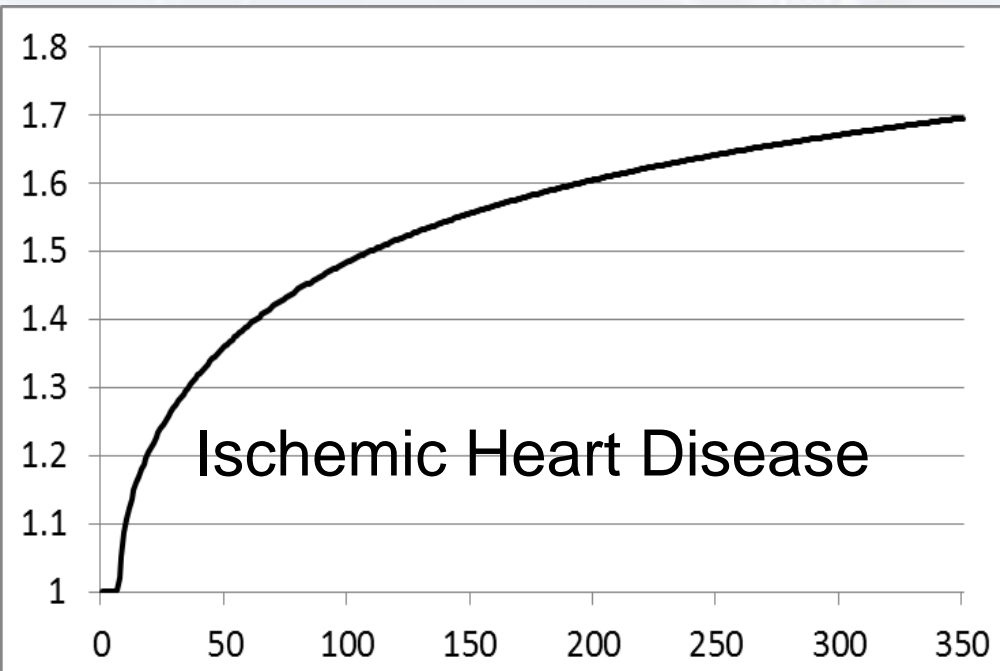
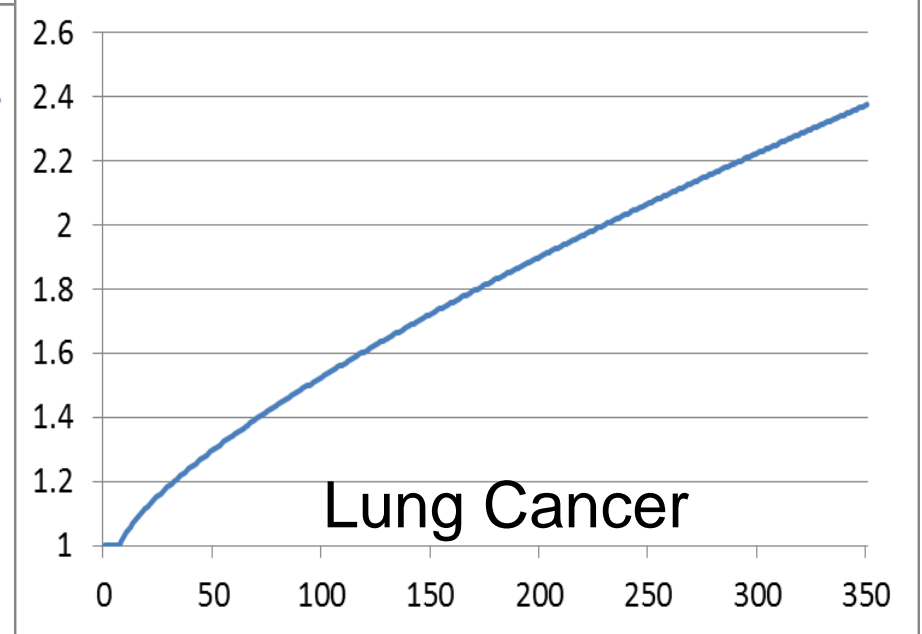
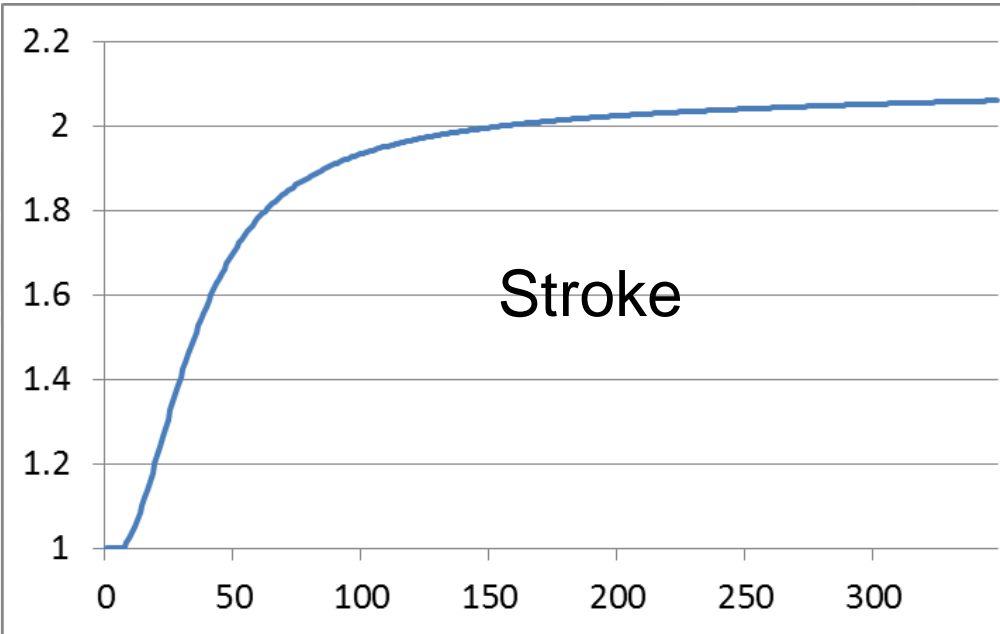
IER function*: PM_{2.5} and child ALRI risk



*Burnett et al EHP 2014

IER function for PM_{2.5} and child ALRI risk (linear scale)





ug/m³ annual average PM_{2.5}

Air pollution management and control in Latin America and the Caribbean

City population size	Number of cities	PM ₁₀	PM _{2.5}
≥100,000 <500,000	455	11	34
≥500,000 <1000,000	57	11	5
≥1000,000 <5000,000	35	14	8
≥5000,000 <10,000,000	5	5	5
≥10,000,000	3	3	2
	555	44	54

Number of cities monitoring PM₁₀ and PM_{2.5} per population size in LAC

- PM₁₀ is regulated in 19/33 countries;
- PM_{2.5} is regulated in 13/33 countries

	PM ₁₀	PM _{2.5}
WHO AQG	1	4
IT-1	9	12
IT-2	18	23
IT-3	8	9
> IT-3	8	6
TOTAL	44	54

Mean annual levels of PM₁₀ and PM_{2.5} in LAC cities with ground level monitoring stations compared to WHO AQG



Monitoring stations in 77 cities distributed in 17 /33 LAC countries

PM₁₀ – 44 cities
 PM_{2.5} – 54 cities

Coverage ~133 million people.

Riojas-Rodríguez, H; Soares da Silva A; Texcalac-Sangrador JL; Moreno-Banda GL. Air pollution management and control in Latin America and the Caribbean and implications for climate change. Rev Panam Salud Publica. 2016 (forthcoming)

SECTIONS HOME SEARCH The New York Times SUBSCRIBE NOW

MEXICO CITY JOURNAL **Haze Returns to Mexico City, Where Not Driving Is Hardly an Option**

AMERICAS | MEXICO CITY JOURNAL

Haze Returns to Mexico City, Where Not Driving Is Hardly an Option

By ELISABETH MALKIN JUNE 13, 2016



Rush-hour traffic on the Circuito Interior, a freeway in Mexico City.

Mexico City has registered only 20 “clean” days in 2016 according to national air quality standards.

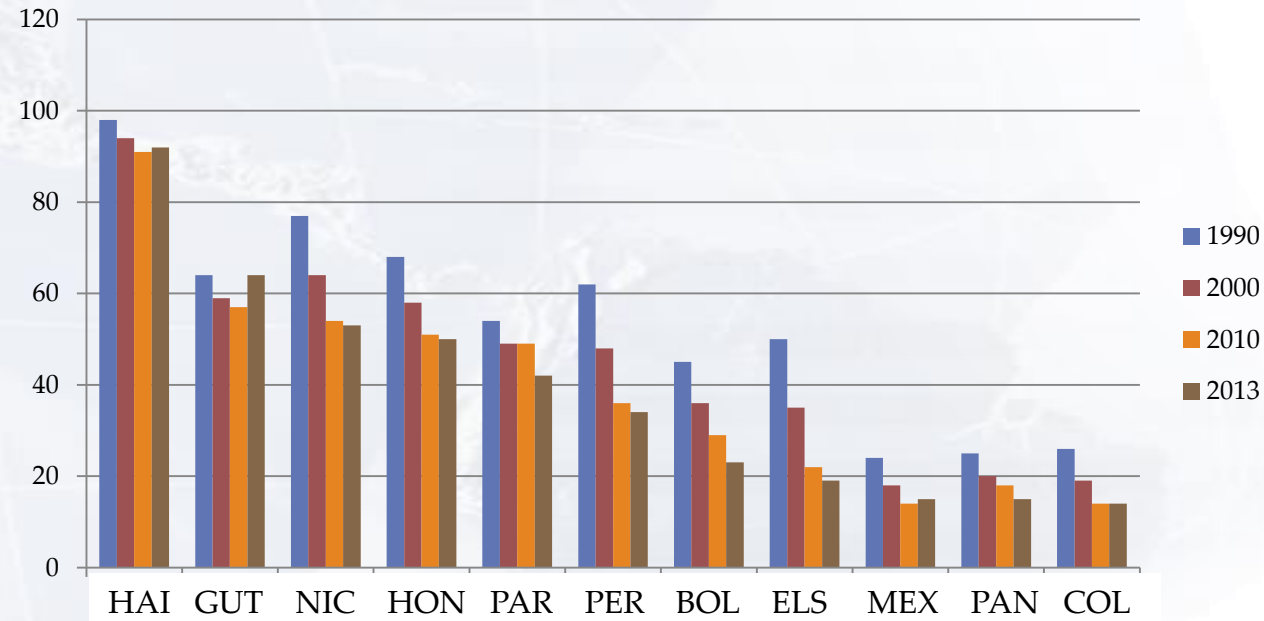
- Legislation updated in 2015 in a participatory process
- Difficulties on implementing and sustaining interventions to reduce emissions

Household air pollution in LAC



Typical wood cookfire releases the equivalent of ~400 cigarettes per hour worth of smoke

LAC countries with 10% or more of SFU



Fuente: WHO Global Health Observatory Data Repository. Population Using Solid Fuels. World Health Organization. <http://apps.who.int/ghodata/#>



We must not remain gradient-blind

ESTADO	# Hogares usuarios de leña (2010) INEGI	IDH	% Población Indígena (INEGI)
CHIAPAS	698,406 (58%)	0.66	15 - 19
OAXACA	582,984 (61%)	0.67	> 19
GUERRERO	433,432 (51%)	0.67	4 - 8
MICHOACAN	294,595 (27%)	0.70	4
VERACRUZ	858,395 (44%)	0.71	4 - 8
GUANAGUATO	161,278 (12%)	0.71	< 4
HIDALGO	224,457 (34%)	0.72	15 - 19
PUEBLA	477,728 (33%)	0.72	4 - 8
ZACATECAS	49,351 (13%)	0.72	< 4
SAN LUIS POTOSÍ	198,639 (30.7%)	0.73	4 - 8
CHIHUAHUA	84,659 (10%)	0.73	< 4
DURANGO	67,893 (17%)	0.73	< 4
NAYARIT	49,873 (18%)	0.73	< 4
YUCATÁN	240,679 (49%)	0.74	> 19
MÉXICO	340,852 (9%)	0.74	4
TABASCO	255,730 (46%)	0.74	< 4
QUINTANA ROO	58,354 (18%)	0.75	15 - 19
CAMPECHE	61,328 (30%)	0.75	8-15
JALISCO	108,766 (6%)	0.75	< 4
MORELOS	59,787 (13%)	0.75	< 4
QUERETARO	62,106 (13%)	0.76	< 4
SINALOA	98,811 (15%)	0.76	< 4
TAMAULIPAS	57,208 (7%)	0.76	< 4
NUEVO LEÓN	30,226 (3%)	0.79	< 4

- Know, document, and target differently

- Measure the effect of the interventions

One solution does not fit all

Rural x Urban

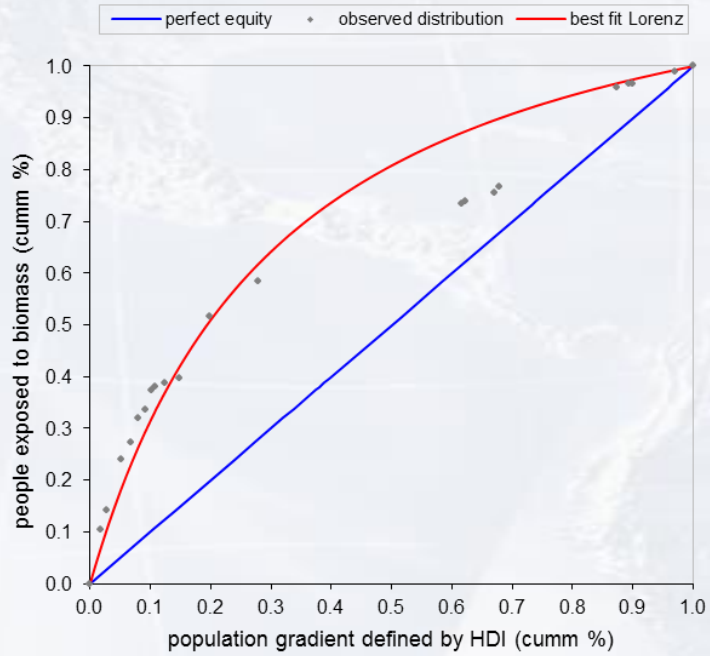


Figura 1: Concentration index of the exposure to biomass as determined by the social gradient defined by human development in 21 Latin American and Caribbean countries

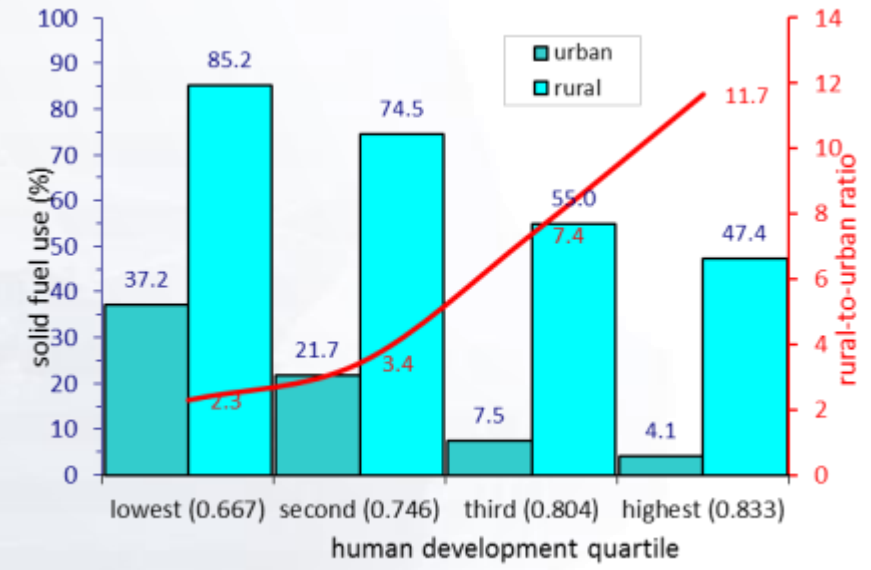
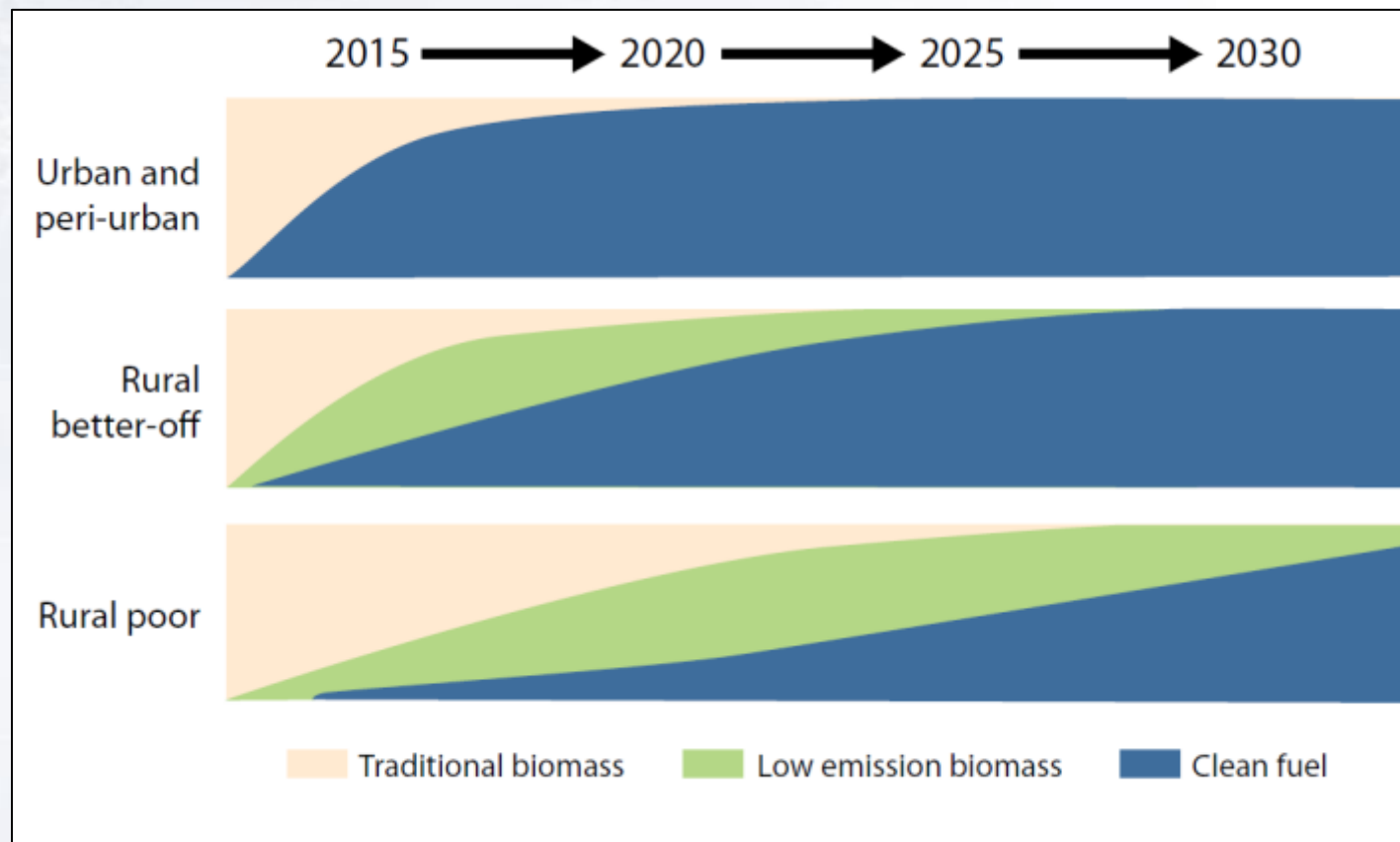


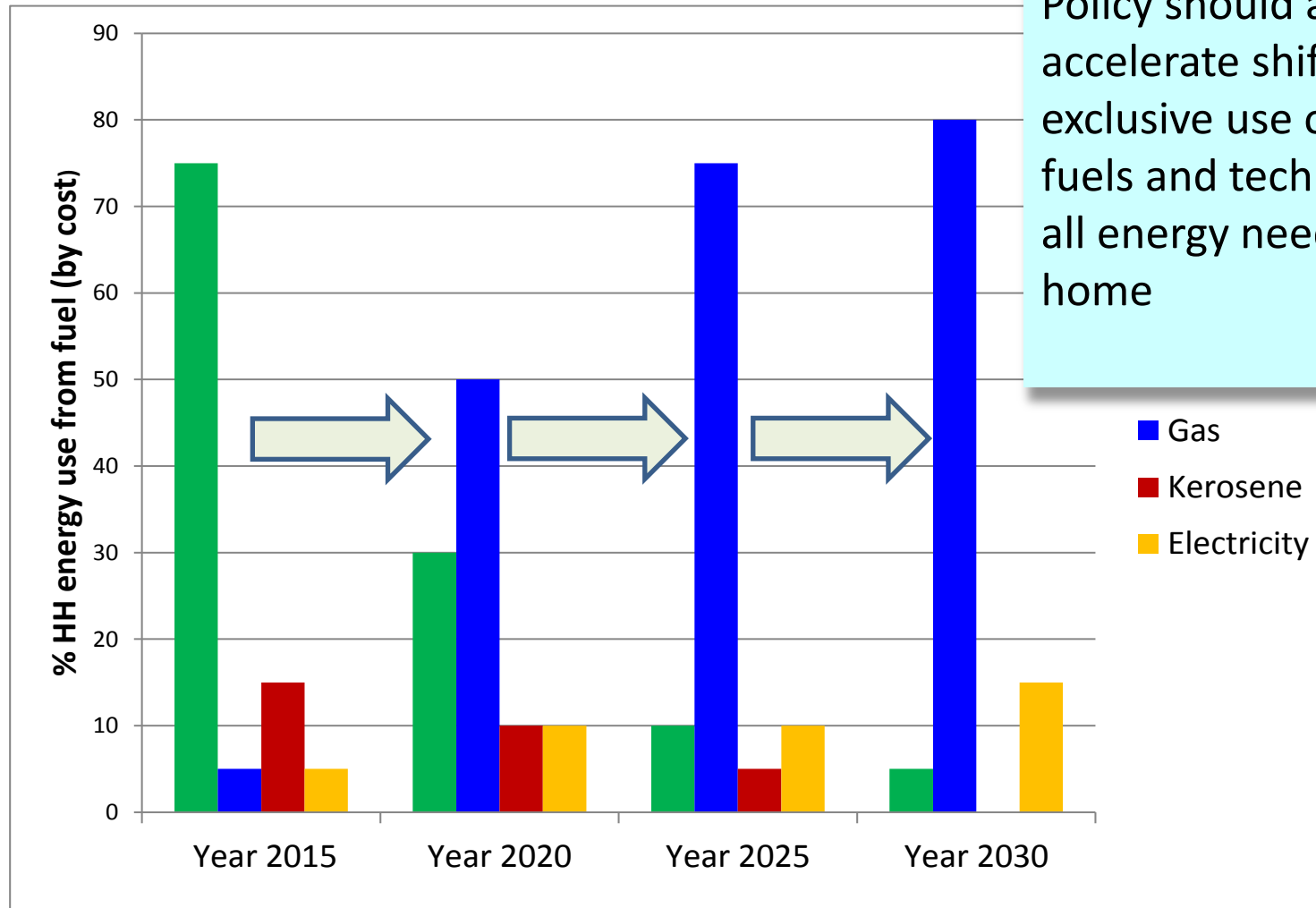
Figura 2: Solid fuel use in urban and rural areas as a function of HDI in 21 Latin America and Caribbean countries

58,2% of the population exposed to solid fuels in LAC is concentrated in countries in the lowest HDI quartile while only 5% live in countries in the highest HDI quartile. Rural/urban differences are only 2.3 in the lowest quartile and 11.7 in the highest quartile.

For solid fuel users, expect varying rates of adoption of clean fuels across society ... (urban x rural x socioeconomic status)



Also, transition of household energy mix over time



Policy should aim to accelerate shift to more exclusive use of cleanest fuels and technologies for all energy needs in the home

- Gas
- Kerosene
- Electricity

Para acceder a la pagina del seminario sobre contaminación del aire de la AIDIS -
http://aidisnet.org/html/esp/not_13etan.html

Para acceder a la base de datos de la OMS (en inglés) donde hay información sobre la contaminación del aire en las ciudades:
http://www.who.int/phe/health_topics/outdoorair/databases/cities/en/

Para el informe sobre la carga de enfermedades atribuibles a la contaminación del aire:
http://www.who.int/phe/health_topics/outdoorair/databases/en/#

Para el informe sobre la carga de enfermedades atribuibles al ambiente (EN):
http://www.who.int/quantifying_ehimpacts/publications/preventing-disease/en/

Sobre la contaminación del aire intramuros, siga nuestra página:
http://www.paho.org/hq/index.php?option=com_content&view=article&id=11049%3A2015-household-air-pollution&catid=8026%3Ahousehold-air-pollution&Itemid=41516&lang=es

Thank you!
Gracias!
Obrigada!

...

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Curitiba, Brazil, 2012, by [®]Eugenia Rodrigues



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