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CENTRO DE OBESIDAD Y SALUD METABÓLICA

Carga de las enfermedades metabólicas: Perspectivas desde América Latina

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Disclaimer

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Global burden of metabolic diseases, 1990–2021

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Objectives and road-map

- Explain data source & metrics
- Compare Latin-American burden with global patterns
- Highlight country-level stand-outs
- Discuss trends & policy implications

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Data & Definitions

- Source: GBD 2021 analysis (Zhang et al., Metabolism 2024;160:155999)
- Five conditions: T2DM, high systolic blood pressure (hypertension), high body mass index (obesity), high LDL cholesterol (hypercholesterolaemia), MASLD
- Metric: DALYs = YLL + YLD (age-standardised rates per 100 000)

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Latin America in the global context

Disease	Global DALYs	LA country in global top-5 (absolute burden)
T2DM	~75 m	**Mexico** (rank 4) ~3.07 m DALYs (2 344 /100 k)
Hypertension	~226 m	None (highest LA values below global Top-5)
Obesity	~129 m	**Brazil** (rank 5) ~4.75 m DALYs (1 875 /100 k)
Hypercholesterolaemia	~88 m	None
MASLD	~3.67 m	**Mexico** (rank 3) 0.27 m DALYs (201.9 /100 k)

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Why focus on DALYs?

- DALYs = YLL + YLD (age-standardised rates per 100 000)
- Captures premature mortality **and** disability
- Comparable across heterogeneous datasets
- Aligns with WHO SDG monitoring framework

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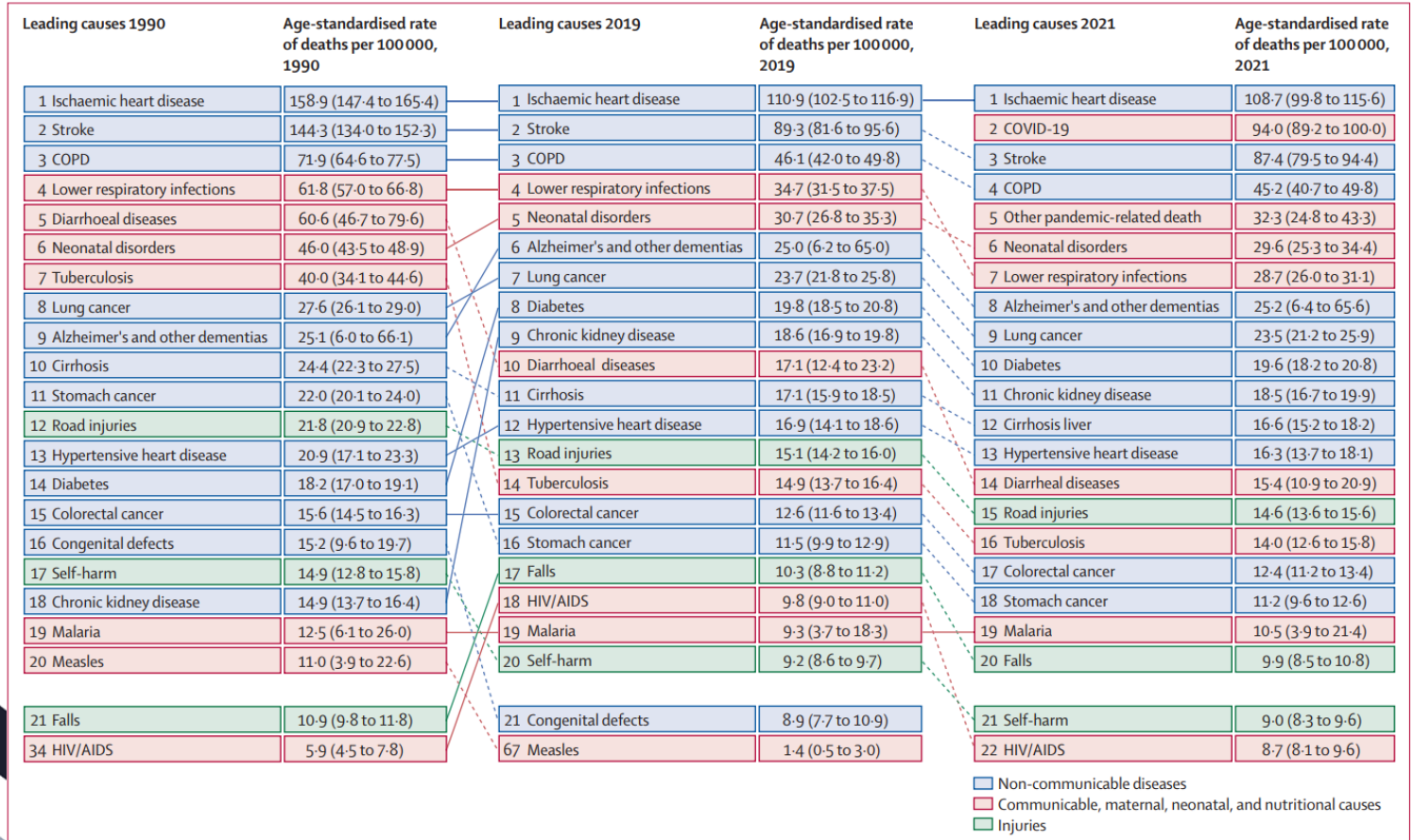

Leading Level 3 causes of global deaths and age-standardised death rate per 100000 population for males and females combined, 1990, 2019, and 2021(Source: GBD 2021 Diseases and Injuries Collaborators. Lancet, 2024).

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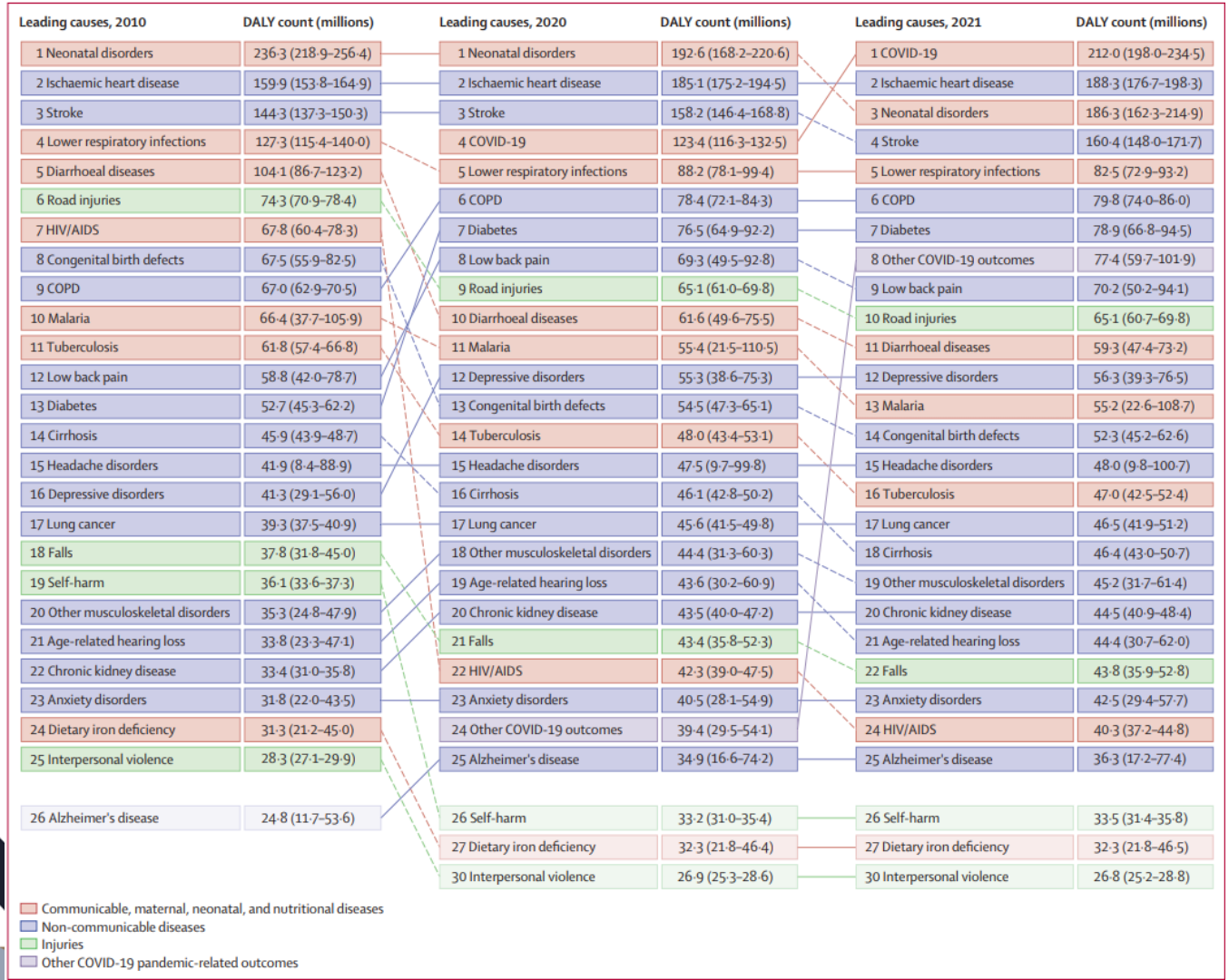

Leading Level 3 causes of global DALYs in 2010, 2020, and 2021, for both sexes combined, and all ages (Source: GBD 2021 Diseases and Injuries Collaborators. Lancet, 2024).

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Latin America and Caribbean	COVID-19	Ischaemic heart disease	Diabetes mellitus	Interpersonal violence	Neonatal disorders	Stroke	Other COVID-19 pandemic-related outcomes	Low back pain	Road injuries	Chronic kidney disease
Andean Latin America	COVID-19	Other COVID-19 pandemic-related outcomes	Neonatal disorders	Lower respiratory infections	Ischaemic heart disease	Diabetes mellitus	Road injuries	Anxiety disorders	Stroke	Chronic kidney disease
Caribbean	COVID-19	Ischaemic heart disease	Neonatal disorders	Diabetes mellitus	Stroke	Other COVID-19 pandemic-related outcomes	Lower respiratory infections	Interpersonal violence	Road injuries	Congenital birth defects
Central Latin America	COVID-19	Ischaemic heart disease	Diabetes mellitus	Interpersonal violence	Other COVID-19 pandemic-related outcomes	Chronic kidney disease	Neonatal disorders	Road injuries	Low back pain	Stroke
Tropical Latin America	COVID-19	Ischaemic heart disease	Interpersonal violence	Stroke	Diabetes mellitus	Low back pain	Anxiety disorders	Neonatal disorders	Road injuries	Depressive disorders

Annualised rate of change, 2010–21

<·5·3% | −5·3% to <−3·7% | −3·7% to <−1·9% | −1·9% to <−0·8% | −0·8% to <0% | 0% to <0·6% | 0·6% to <1·1% | 1·1% to <1·9% | 1·9% to <4·9% | ≥4·9%

Top ten Level 3 causes by DALYs rate (Source: GBD 2021 Diseases and Injuries Collaborators. Lancet, 2024).

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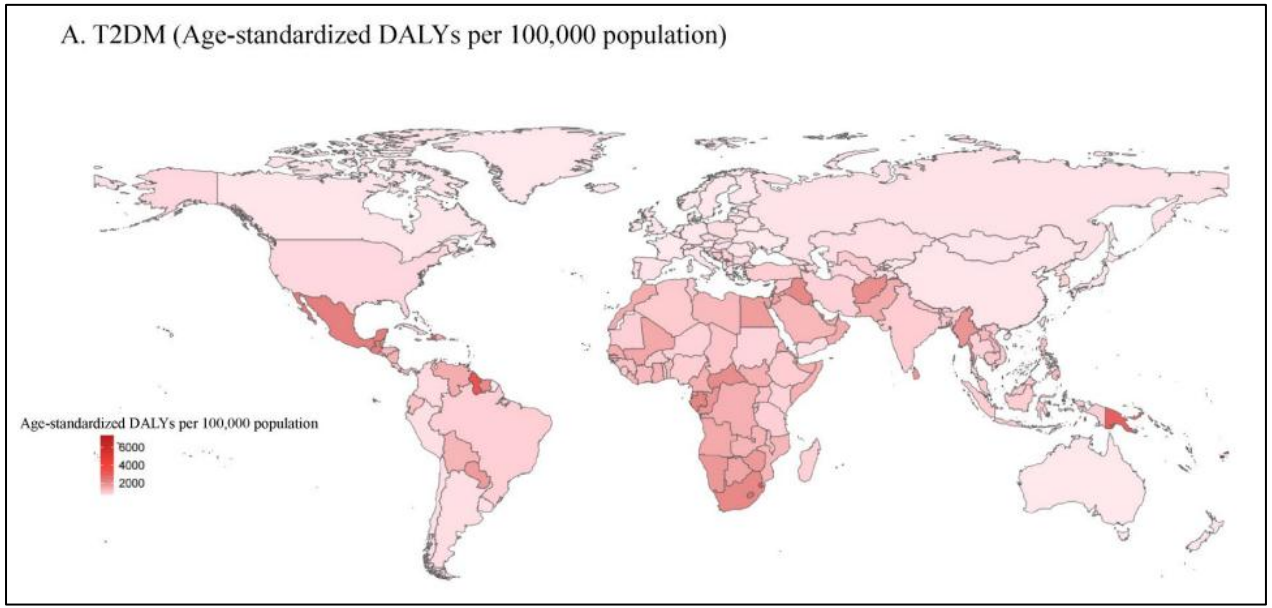
Type 2 Diabetes Mellitus

- Mexico: ~3.07 m DALYs; rate 2 344 /100 k (APC +0.03 %)
- Regional trend: DALYs tripled since 1990 (mirrors global +200 %)



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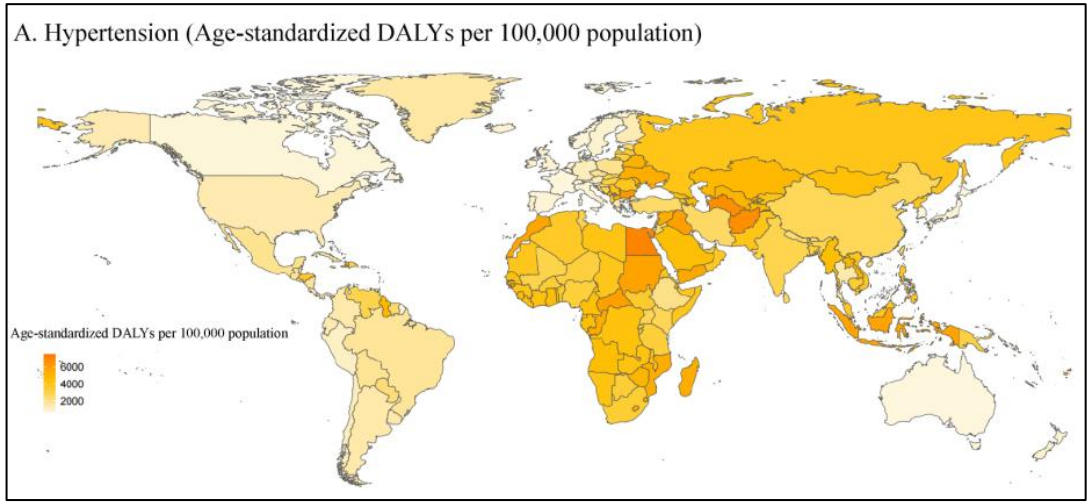
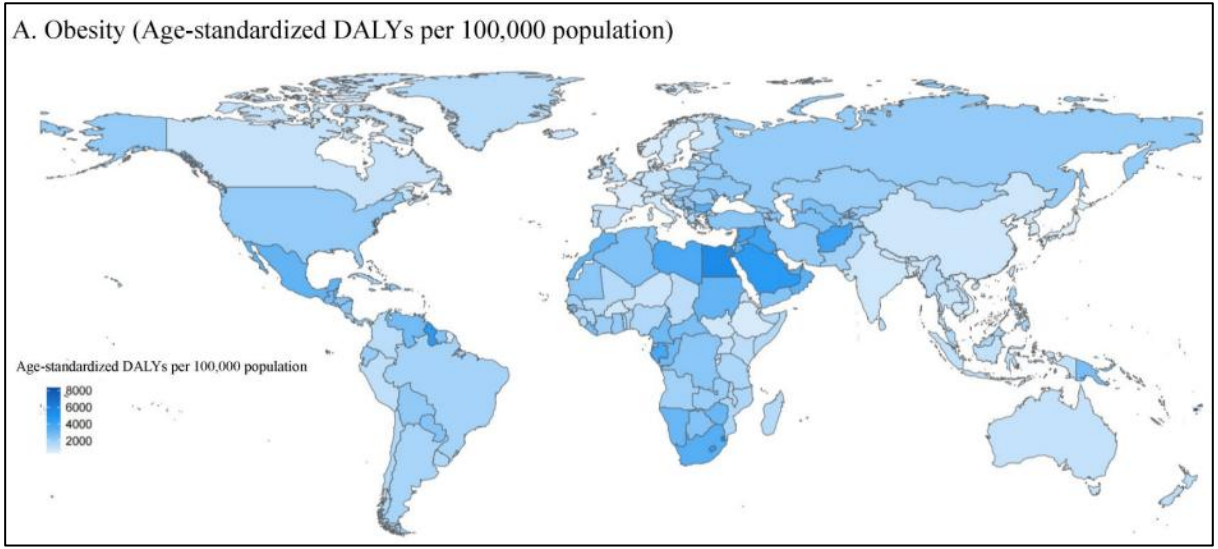
Hypertension

- No Latin-American country in the global top-5 absolute list
- APC –0.3 % globally; regional decline mirrors improved treatment coverage
- Nevertheless, ischaemic heart disease and stroke are among the (Top 4) Leading Level 3 causes of global DALYs in 2021, for both sexes combined, and all ages



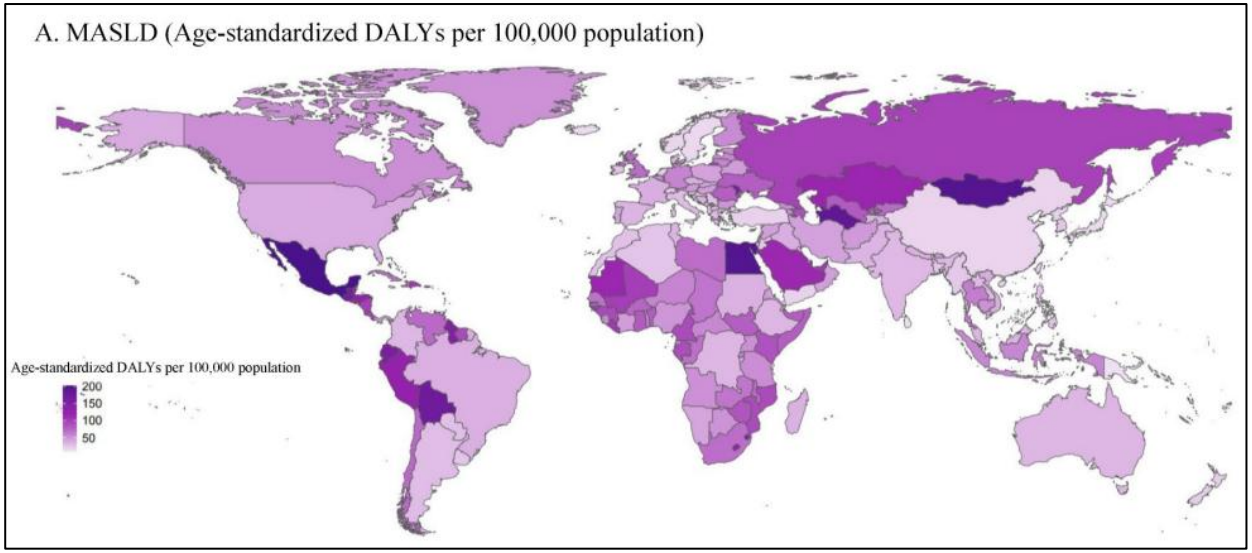
Obesity

- Brazil in global top-5: ~4.75 m DALYs; rate 1 875 /100 k (APC +0.02 %)
- Global and regional obesity DALYs have increased three- to four-fold since 1990



MASLD

- Mexico: highest absolute (~270 k DALYs) **and** highest relative burden worldwide (201.9 /100 k)
- Globally MASLD DALYs up 2.2-fold, but rate stable; LA mirrors this stagnation (although Mexico had an APC of 0.2 %.



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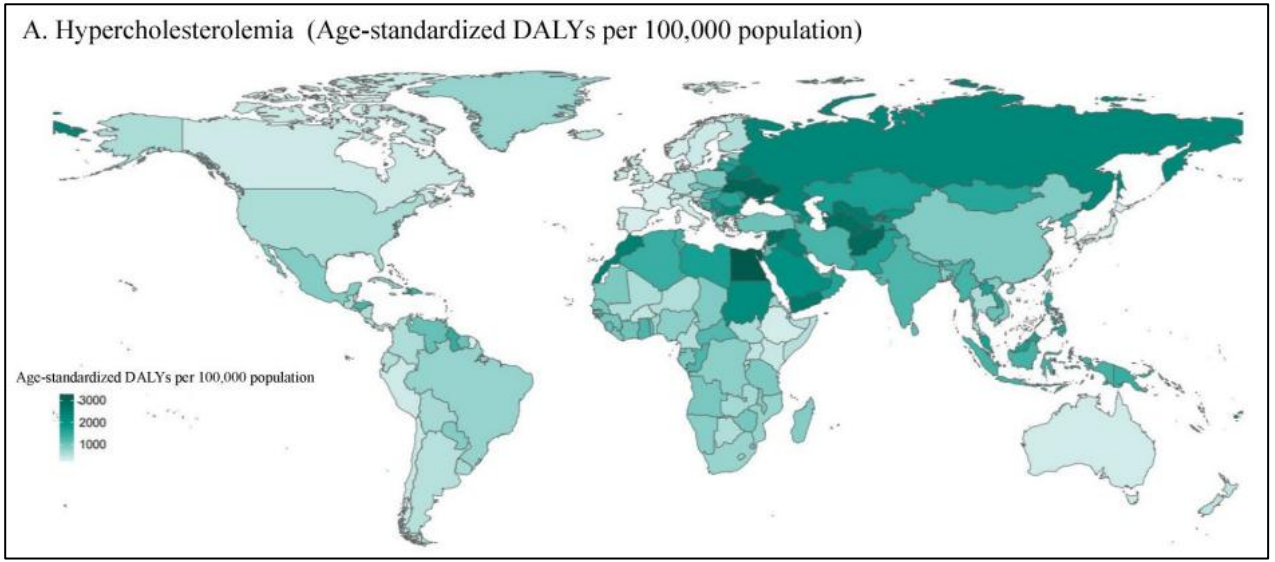
Hypercholesterolaemia

- No LA country in top-5 absolute or relative lists
- Yet CVD deaths attributable to high LDL-C remain high; statin coverage inequitable



Cross-cutting Trends (1990-2021) Globally

- Accelerating: T2DM (+0.42 %/yr) & Obesity (+0.26 %/yr)
- Slowing: Hypertension (–0.30 %/yr) & Hypercholesterolaemia (–0.33 %/yr)
- Flat: MASLD (+0.05 %/yr)

Drivers in Latin America

- Rapid urban migration & dietary westernisation
- Socio-economic inequalities (Middle-SDI quintile bears highest DALYs)
- Informal work limiting healthcare access

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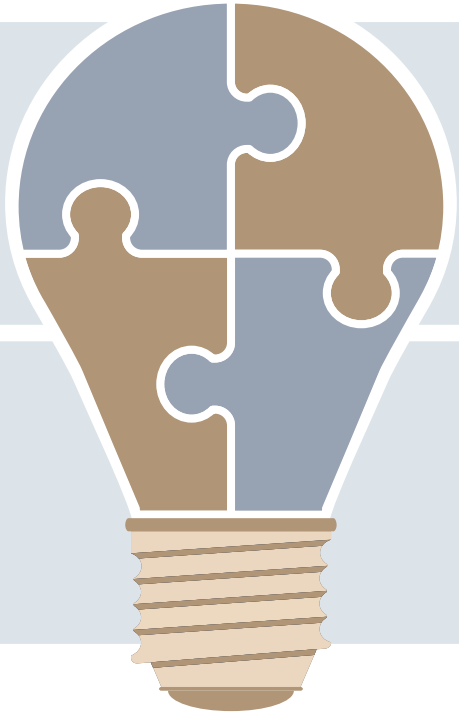
Policy implications

Strengthen fiscal measures (e.g. sugar-sweetened beverage taxes)

Scale-up primary-care detection & lifestyle interventions



Integrate MASLD screening into diabetes/obesity clinics

Invest in population-level food-system reform

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Research & Data gaps

Under-representation of LA cohorts in GBD input databases

Lack of nationally representative health surveys with metabolic biomarkers

Limited cost-effectiveness studies for metabolic disease interventions in the region

Cross-country data harmonisation remains weak, impeding regional comparisons

Vital registration systems remain incomplete or outdated in several countries

Few cohort studies track long-term outcomes of MASLD or obesity

Surveillance systems still use outdated terminology (eg. NAFLD instead of MASLD)

Socioeconomic and ethnic subgroup analyses are rarely conducted or reported

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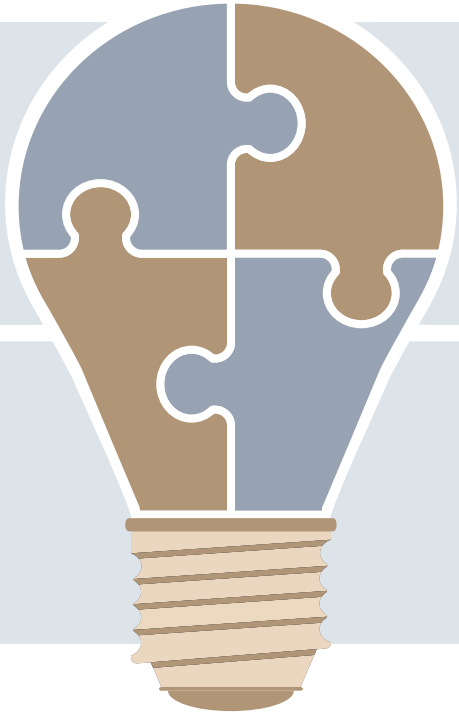
Key take-home messages

Latin America punches above its weight for T2DM, Obesity & MASLD.

Mexico and Brazil are regional epicentres, **but…**



Hypertension & LDL-C control suggest that policy works **(?)**

Comprehensive, equity-focussed strategies are required to bend the curve

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¡Muchas gracias!

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