

Urban Health Governance Index (UHGI): A feasible method for Latin American cities using UN-Habitat principles

**Costa GO¹, Rocha SC¹, Morais LMO¹, Silva UM¹, Costa DAS¹,
Slesinski C², Diez-Roux A², Friche AAL¹, Caiaffa WT¹**

Author's affiliation: ¹Belo Horizonte Observatory for Urban Health, Federal University of Minas Gerais, Brazil; ²Drexel University Urban Health Collaborative, Drexel University, Philadelphia, Pennsylvania, USA

The Salud Urbana en América Latina (SALURBAL)/ Urban Health in Latin America project is funded by Wellcome Trust
[205177/Z/16/Z]



Introduction

- Governance is a widely used concept throughout different disciplines and sectors.
- World Bank (1992): governance as the process in which power is operationalized in the management of a country.
- Burris et al (2005): governance as the management of the course of events in a social system.

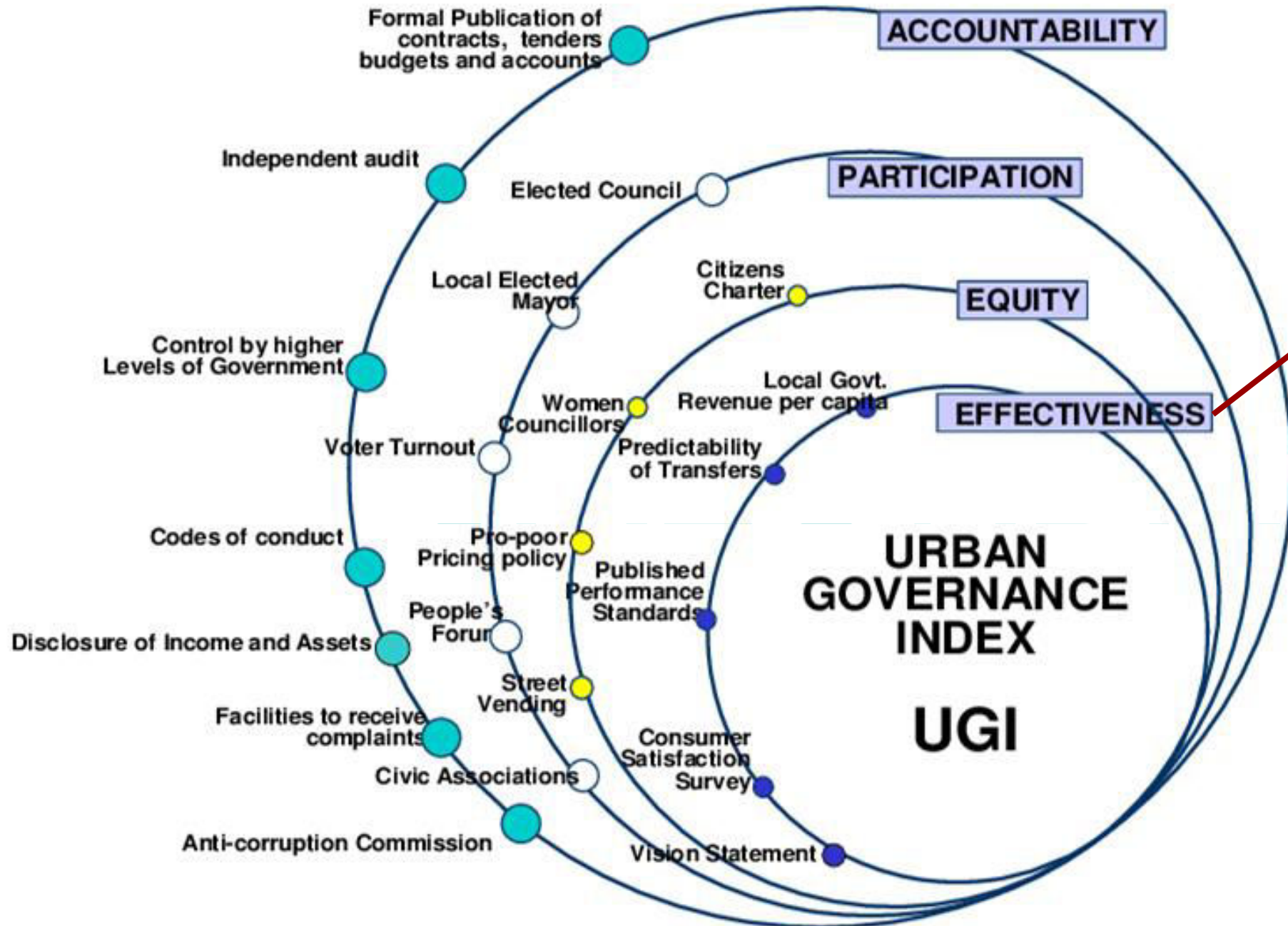
Introduction

- Lack of governance measurement initiatives
- Urban governance may affect health outcomes in cities as it defines the structures and context of urban living, where health is generated through the everyday lives of urban residents.
- **Objective:** To develop an Urban Health Governance Index (UHGi) for Latin American (LA) cities embodying the four principles of UN-Habitat's urban governance definition.

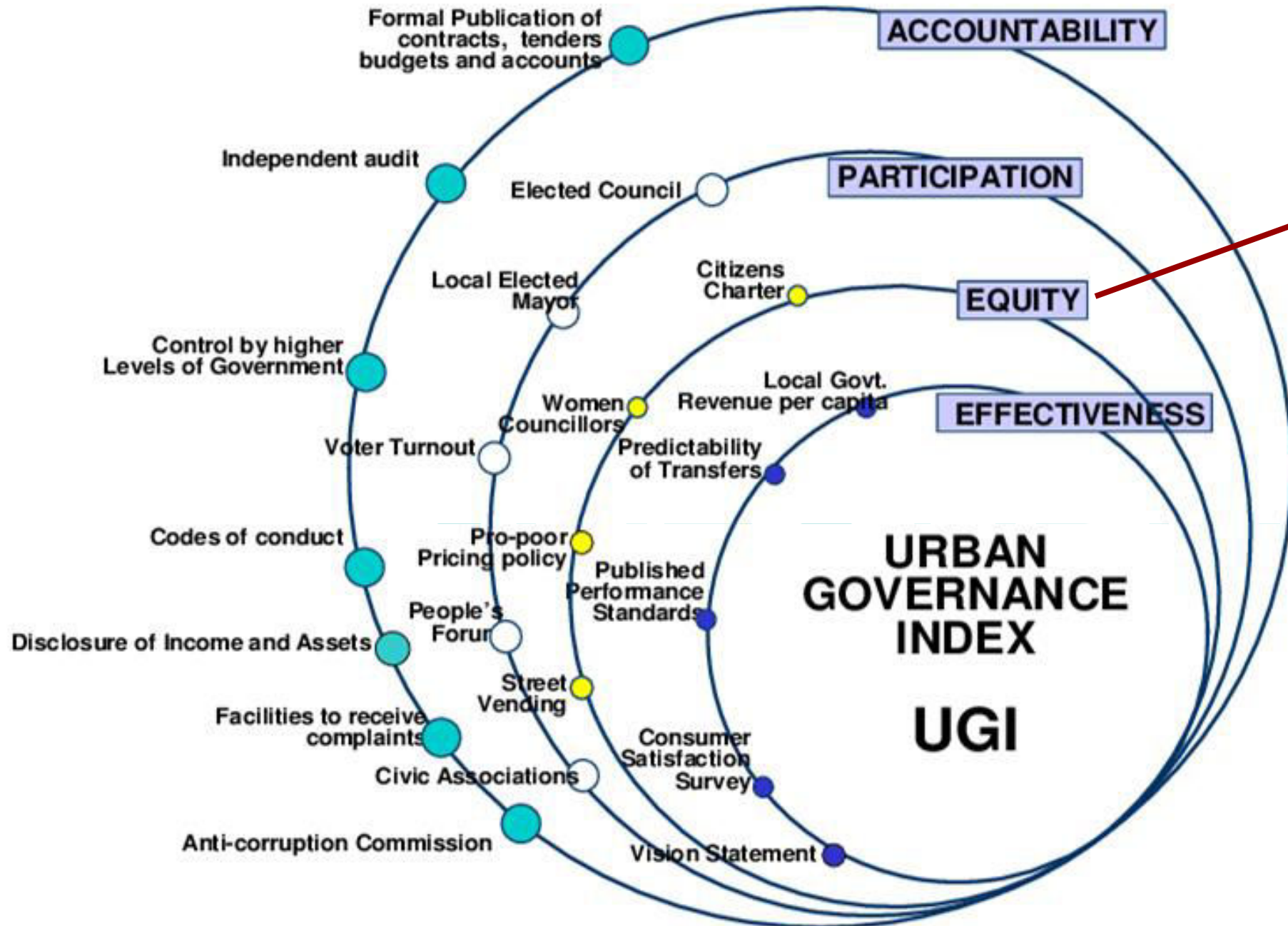
Governance for Urban Health

“Urban governance can be defined as the sum of the many ways individuals and institutions, public and private, plan and manage the common affairs of the city. [...] Good urban governance can be understood to constitute a series of interdependent and mutually reinforcing — principles: — effectiveness, equity, participation and accountability” (UN-HABITAT, 2002).

- The UN-Habitat proposes a **theoretical** Urban Governance Index (UGI), using city information into a single metric, enabling comparisons between cities.

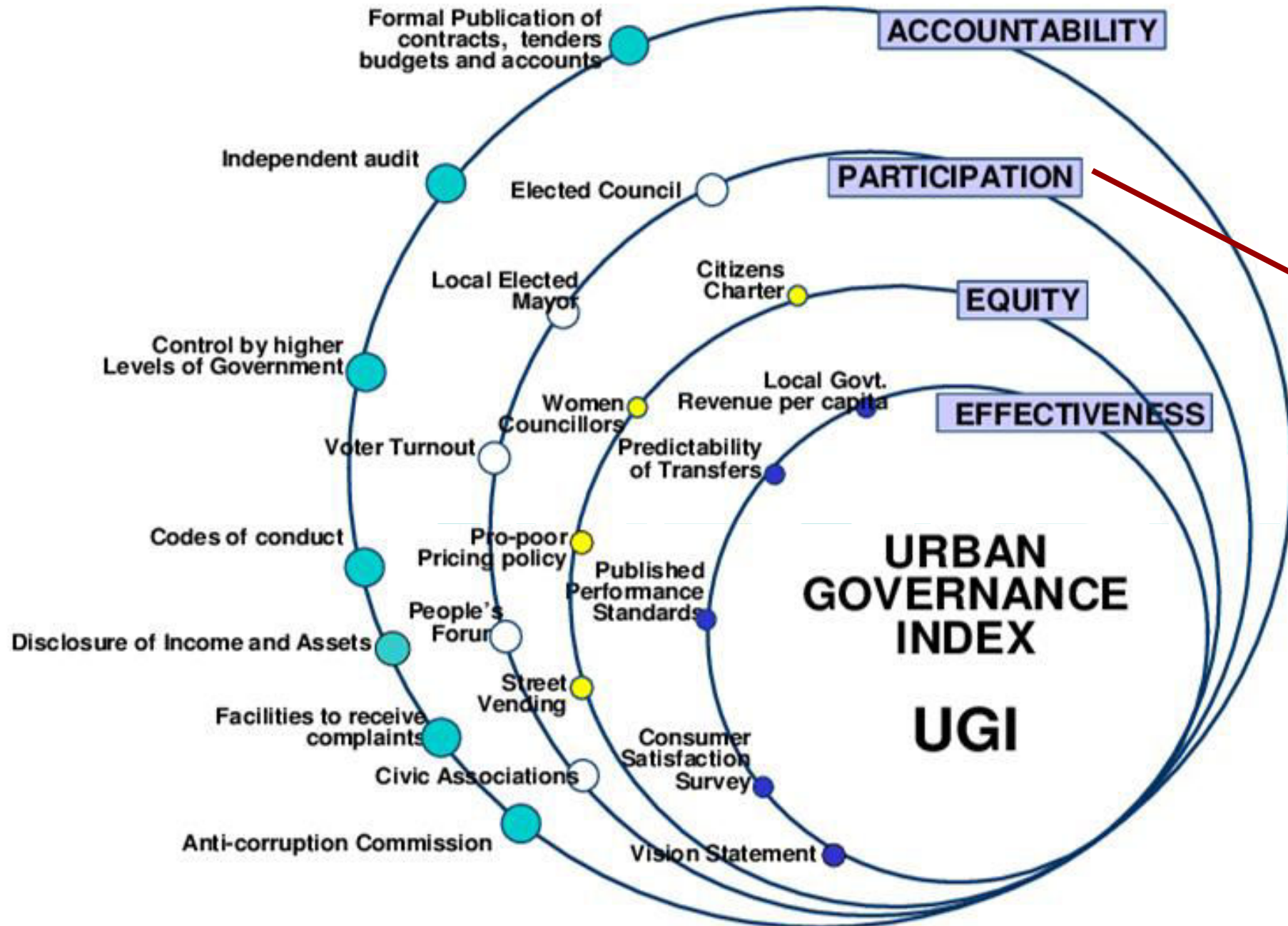


Institutional efficiency in financial management and planning, delivery of public services and responsiveness to civil society concerns

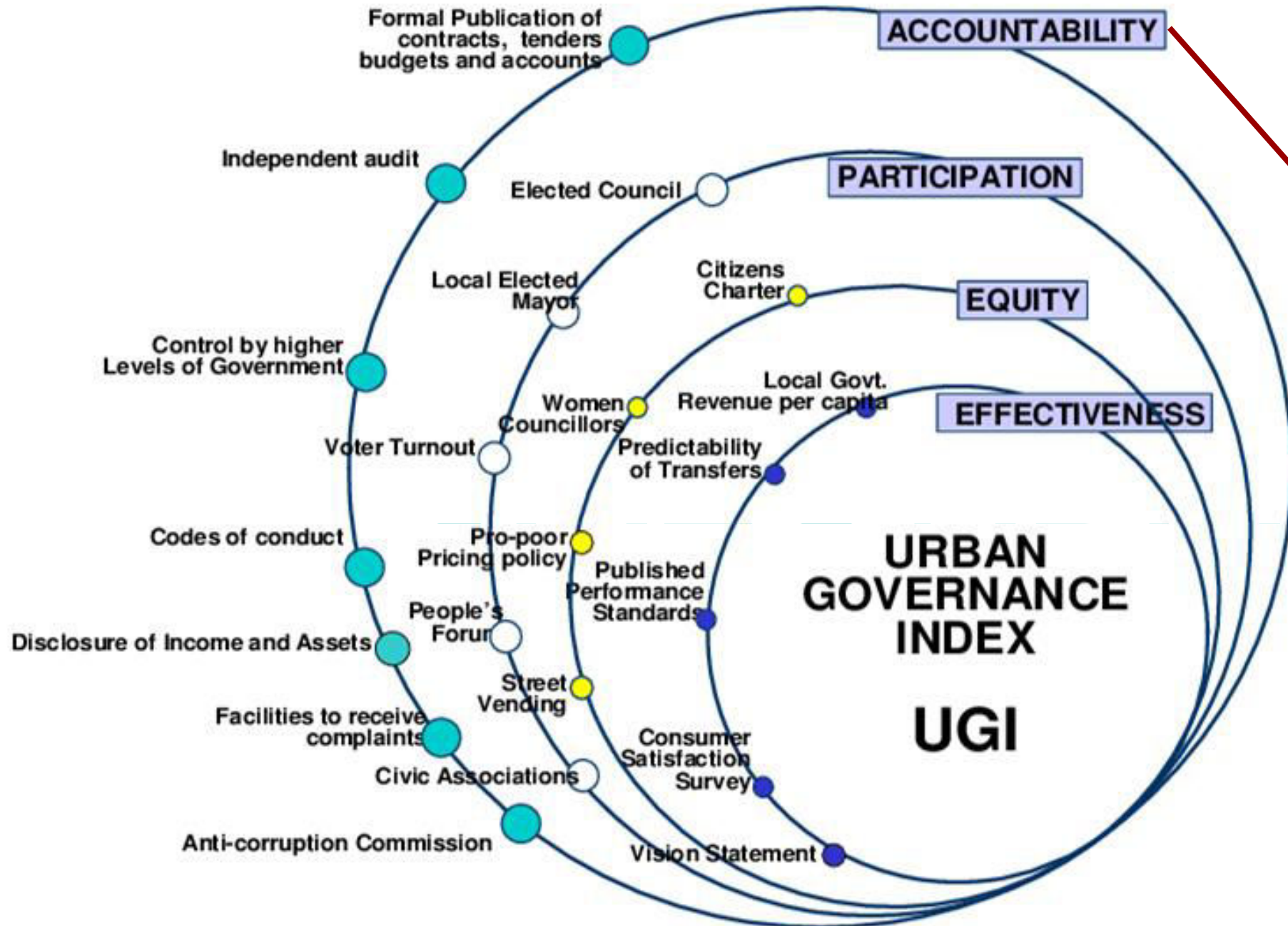


Inclusiveness with unbiased access to basic necessities of urban life, with institutional priorities focusing on pro-poor policies and an established mechanism for responding to the basic services





Existence of mechanisms that allow democratic local citizenship participation in decision-making processes.



Effective mechanisms for transparency in the actions of public government and also rule of law and public policies executed in a transparent and predictable manner.

Methods

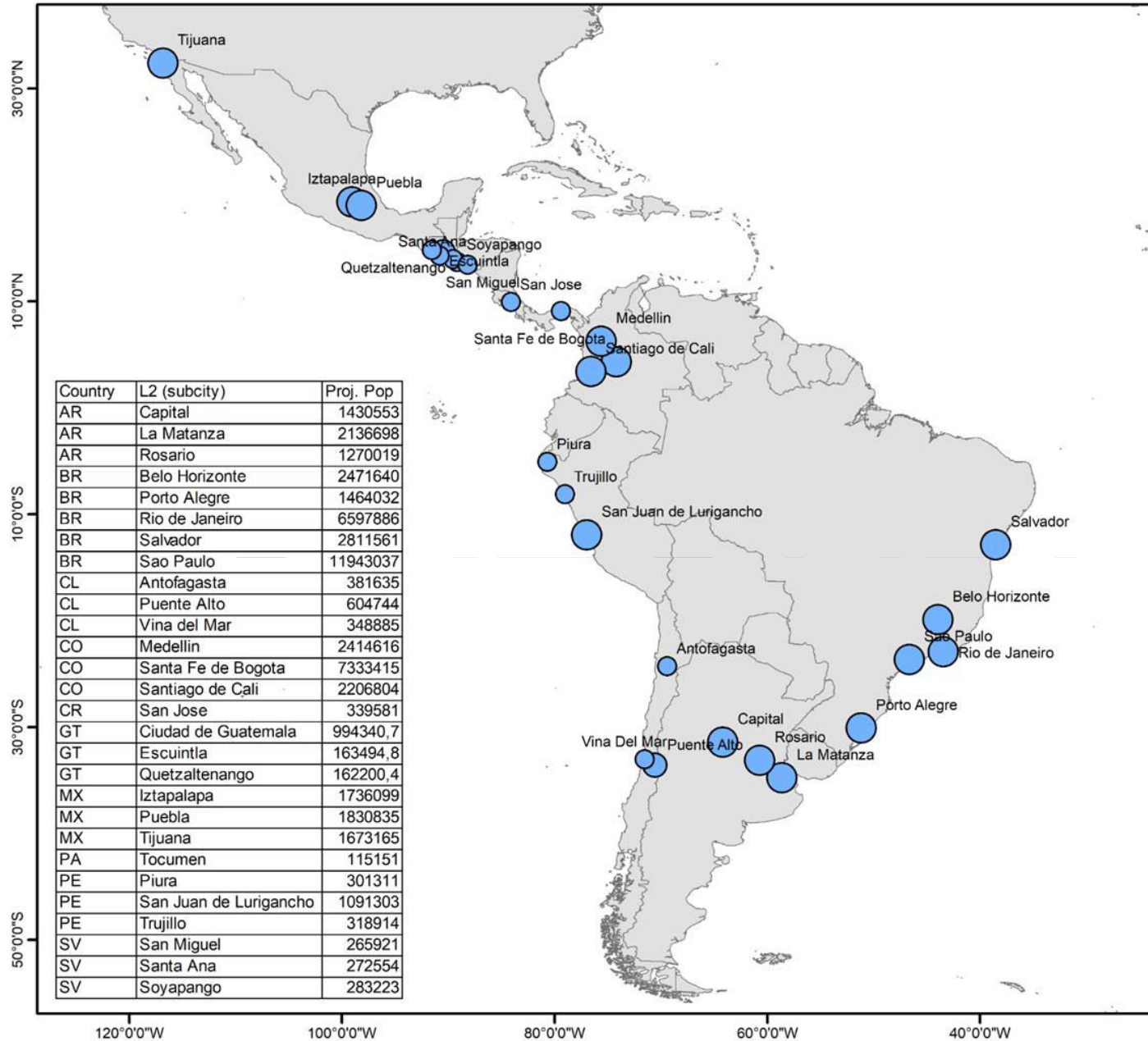
- The conceptual and technical construction of the Urban Health Governance Index (UHGI) draws from the Urban Governance Index (UGI) developed by UN-Habitat.
- The chosen variables are proxies for the four UGI principles at a city level, with data acquired directly from government agencies and institutions in administrative records (city hall websites).

Dimension	Variables	
Effectiveness	<ul style="list-style-type: none"> • Expenditures Initial Budget <i>per capita</i> • Expenditures Modified Budget <i>per capita</i> • Executed Expenditures <i>per capita</i> • Ratio of Expenditures Modified Budget to Expenditures Initial Budget • Ratio of Executed Expenditures to Expenditures Modified (or Initial) Budget 	
Participation	<ul style="list-style-type: none"> • Existence of Participatory Budgeting 	
Accountability	<ul style="list-style-type: none"> • Level of detail on the expenditures' initial budget document • Level of detail on the expenditures' modified budget document • Level of detail on the executed expenditures document. 	
Equity	Social Assistance for Specific Groups	<ul style="list-style-type: none"> • Temporary housing offering • Public transportation
	Tariffs and Fees Exemption/Subsidy for Public Service	<ul style="list-style-type: none"> • Popular housing • Water services • Sewage/sanitation services
	Actions to promote work	<ul style="list-style-type: none"> • Actions to promote formal work and employment • Regulation on street trading
	Gender Equity	<ul style="list-style-type: none"> • Actions against domestic violence, on gender equity and on LGBTQ+ population

Methods: The Salurbal Project

- “Sub-city”: a country-specific administrative unit - e.g. município (municipality) and comuna - nested within a “city”, which is a combination of adjacent administrative units (e.g., several municipios) that are part of a contiguous urban extent (as determined from satellite imagery) containing at least 100,000 inhabitants

(QUISTBERG et al, 2019)



Urban Health Governance Index (UHGI) Original Sample

Population Range

- From 100.000 to 500.000
- From 500.000 to 1 million
- Above 1 million inhab

Countries boundaries



0 550 1.100 1.650
km

Elaborated by Solimar C, Rocha
 Projection GCS Datum WGS84
 Source: SALURBAL Project
 - Governance WG
 Date: 07/04/2021

Methods

- A sequential Principal Component Analysis (PCA) was used to summarize the variables in a single index, UHGi.
- We examined the index's measurement properties.
- The index's preliminary applicability was illustrated by its association with mortality outcomes in Poisson regressions

SALURBAL

1st round

PCA in each dimension. Retain components to explain $\geq 75\%$ variance. For each component, retain variables with highest coefficients.

2nd round

Single PCA across all dimensions. Retain first component. Retain only variables w/ absolute coefficients \geq absolute coefficients' average.

3rd round

Another PCA across all dimensions. The first component is the Urban Health Governance Index (UHGI)

Effectiveness

Participation

Accountability

Equity

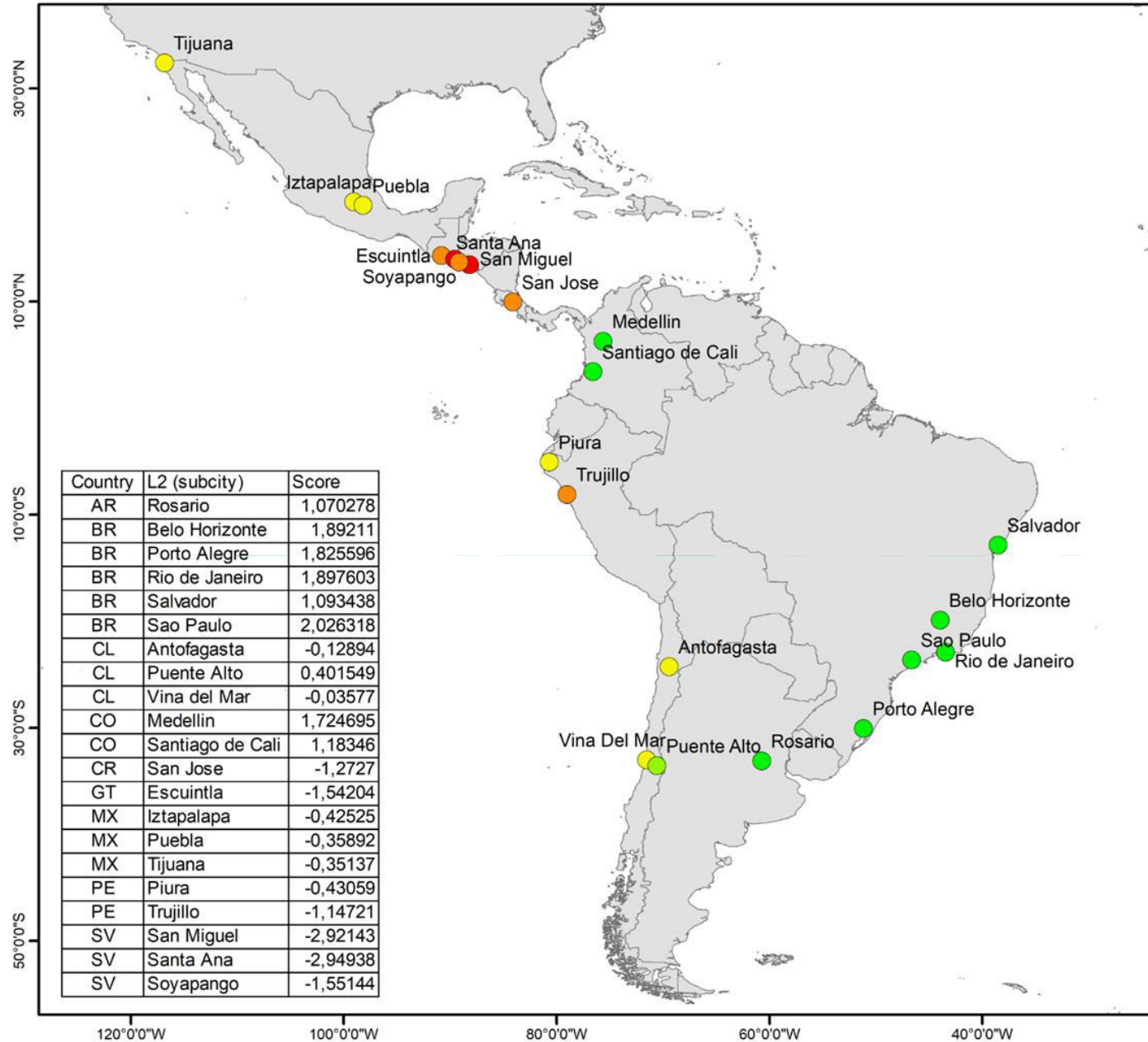
Variables retained on the 1st round

UHGI

Results: final PCA round

Dimension	Variable	Component loading
Participation	Existence of Participatory Budgeting	0.5087
Effectiveness	Expenditures Modified Budget per capita	0.5445
Equity	Temporary housing	0.5224
	Actions to promote formal work and employment	0.4145

- 58.9% of the global variance was explained in the final PCA round.



Urban Health Governance Index (UHGI)

Governance score by L2

- -2,95 - -2,00
- -1,99 - -1,00
- -0,99 - 0,00
- 0,01 - 1,00
- 1,01 - 2,03

Countries boundaries



0 550 1.100 1.650 km

Elaborated by Solimar C, Rocha
 Projection GCS Datum WGS84
 Source: SALURBAL -
 Governance WG
 Date: 07/04/2021

Further results

- Cronbach's alpha across all variables was 0.7065.
- Clusters of cities by UHGi within the same country were identified.
- UHGi was negatively associated with infant mortality (RR 0.62, 95% CI 0.60 - 0.65), mortality rates of <5 year-olds (RR 0.68, 95% CI 0.65 - 0.70) and overall homicide rates (RR 0.26, 95% CI 0.25 - 0.27).

Conclusions

- UHGi's development and measurement properties were adequate, and the associations estimated here suggest that this index could be useful for urban health studies in LAC cities
- Our results also suggest that improving governance could enhance urban health in LA cities.
- Digital transparency is essential as it provides availability of government information at the City Hall's websites and the possibility for the public to control their governments

References

- Barrozo LV, Fornaciali M, de André CDS, Morais GAZ, Mansur G, Cabral-Miranda W, de Miranda MI, Sato IR, Amaro Júnior E. GeoSES: A socioeconomic index for health and social research in Brazil. PLoS One. 2020 Apr 29;15(4):e0232074. doi: 10.1371/journal.pone.0232074. PMID: 32348328; PMCID: PMC7190143.
- Burris S, Drahos P, Shearing C. Nodal Governance. Australian Journal of Legal Philosophy. 2005;30:30-58.
- Quistberg, D.A., Diez Roux, A.V., Bilal, U. et al. Building a Data Platform for Cross-Country Urban Health Studies: the SALURBAL Study. J Urban Health 96, 311–337 (2019). <https://doi.org/10.1007/s11524-018-00326-0>
<https://onlinelibrary.wiley.com/doi/full/10.1002/gch2.201800013>
- UN-HABITAT. 2002. The Global Campaign on Urban Governance: Concept Paper: UN-HABITAT; 2d ed.
- World Bank (1992) Governance and development (English). Washington, DC: The World Bank. Available at: <http://documents.worldbank.org/curated/en/604951468739447676/Governance-and-development>

Thank you very much!

solcarnavalli@hotmail.com

LEARN MORE AND CONTACT US



LACURBANHEALTH.ORG
SALURBAL@DREXEL.EDU

FOLLOW US

@LACURBANHEALTH

