## Road safety outcome surveillance systems in ten low and middle income cities Whitehead SJ, Driver C, Bachani A, Gupta S, Karpati A





# Background



## Bloomberg Initiative for Global Road Safety

- 5-year global road safety initiative in 10 cities
- Goal: reduce road injuries and deaths
- Strategy: Technical support to city governments in 4 areas
  - Infrastructure/engineering for vulnerable road users
  - Evidence-led enforcement
  - Behavior change communications, including mass media campaigns
  - Data, monitoring and evaluation



#### **BLOOMBERG INITIATIVE FOR GLOBAL ROAD SAFETY 2015-2019**



#### **10 CITIES SELECTED FOR INCLUSION IN THE ROAD SAFETY INITIATIVE**





## Data, monitoring and evaluation

- Observational surveys of road user behavior twice annually (JHU-IIRU)
  - Seatbelts/child restraints
  - Motorcycle helmet use
  - Speed
  - Drink driving
- Strengthening road safety outcome surveillance systems (crashes, injuries, deaths) (VS)
  - Baseline assessments, recommendations
  - Technical support to (initially) 5 cities



### **Methods**



## **Baseline assessments**

- Standardized rapid
  assessment tool
- 3-4 day visits to cities
- Meetings with Traffic/Transport, Police, Health Department, and other stakeholders
- Document review

#### We did not ...

- Conduct detailed analysis of city data
  - Reviewed tables only
- Conduct data validation
- Check completeness and consistency in data fields



## Surveillance system strengthening

- Dissemination and onsite discussion of findings
- In five cities: technical support for system strengthening
  - Data sources and data quality
  - Data analysis, including cross-source matching
  - Data reporting and dissemination
  - Linkage to action



#### **Results**



## **Crash Report Forms**

- 3 cities: structured forms, most or all WHO-recommended data elements
  - I city: multiple authorities, varying formats
- 4 cities: structured or semistructured forms, key data elements missing
  - E.g. injured person demographics, helmet use, seatbelt use, adequate location information
- 3 cities: narrative forms

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Place	
Names and Addresses of Drivers and Particulars of Driving	
Names and Addresses of Owners	
Time Ambulance called Time arrived	



### **Crash Report Databases**

- 3 cities: Electronic database in relatively real-time, available to transport authorities
- 2 cities: electronic databases with data restricted to police access
- 2 cities: electronic databases with data entry delays > 18 months
- 2 cities: manual data tallies only



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### **Crash reporting formats and data linkage**

		City	Structured crash report form	Electronic Crash Database	Data linkage: Fatalities	Data Linkage: Injuries
	٢	A	1	1	1	Х
Latin	4	В	1	( 🗸 )	(✓)	(✓)
America		С	1	1	1	X
	Ē	D	(✓)	✓	Х	Х
		E	X	Х	X	х
Asia	4	F	(✓)	(✓)	x	х
		G	X	X	x	х
	L	Н	(✓)	(✓)	x	х
Africa	1	I	X	(✓)	x	х
	L	J	(✓)	Х	Х	х



### **Data Availability:**

Timely, electronic crash data available to city government

		City	2015	2017
	٢	Α	Yes	Yes
Latin	4	B*	Partial	Yes
America	L	C*	Yes	Yes
	ſ	D*	Yes, limited	Yes
<b>.</b> .		E	Partial	Partial
Asia	4	F	Yes	Yes
		G*	None	Fatal
	Ľ	Н	Yes	Yes
Africa	4	I	Yes, limited	Yes, limited
	L	J*	None	Fatal
		No electr	onic crash records	

Electronic records, limited in scope, timeliness, or access Electronic records, timely, available to city teams

\*Technical assistance provided



## **Data source linkage and validation**

		City		2015	2017
	٢	Α		Yes-deaths	Yes-deaths
Latin	4	B*		No	Yes
America		<b>C</b> *		Yes-deaths	lnj - in process
	۲	D*		No	In process
		E		No	No
Asia	4	F		No	No
		G*		No	No
Africa	L	Н		No	No
	ſ	I		No	No
	L	J*		No	In process
			No lin	kage	
			Linkag	ge for deaths only; or	r in process (injuries)
			Linkage for deaths and injuries		

\*Technical assistance provided



## **Data use best practices**

- **Reports:** (2 cities) Produce detailed, city-specific reports at least annually, brief reports weekly/monthly
- **Dashboards** (0 cities) or other interactive online tools
  - Internal
  - Public-facing
- Review/action platforms: for multi-sectoral, actionoriented review of data
  - (1 city) Police and engineering review of blackspots
  - (0 cities) Functional road safety taskforce
  - (0 cities) Multi-sectoral fatality review committee



#### Data use:

Detailed, city-specific dissemination (report or online)

		City	2015	2017
	٢	Α	Yes	Yes
Latin	4	B*	No	Yes
America	L	C*	Yes	Yes
ĺ	Ē	D*	No	Yes
Asia -		E	No	No
		F	No	No
		G*	No	Yes
Africa	ſ	Н	No	No
		I	No	No
	L	J*	No	Yes

No city-specific outcome data
Limited in scope or distribution
Detailed and disseminated widely

\*Technical assistance provided



### **Discussion**



## Summary

- Limited availability and use of road safety outcome data in these settings
- Police crash reports were sole source of road safety outcome data in most cities
- Significant changes in practice seen after one year of technical assistance support



## **Recommendations**

- Further efforts required to provide stakeholders with adequate data to plan and monitor interventions
- Technical support approaches must be adapted to widely varying local contexts



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## Thank you!

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