Demographics of Authorship in International Epidemiology

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International Collaboration

- **International collaboration** = researchers (authors) from two or more countries working together
- Potential benefits:
  - Greater access to expertise, equipment, funding
  - Increased cultural competency
  - Broader visibility
  - Possibility of increased efficiency and productivity
  - Increased number of citations [Glänzel, 2001; Narin, 1991]
- International collaboration is becoming more common in the biomedical / health sciences [Glänzel, 2001; Glänzel, 1997; Luukkonen, 1992; Narin, 1991]

International Collaboration

- “North-north”
- “South-south”
- “North-to-south”
- “South-to-north”

- Which types of partnerships are currently most common in epidemiology?

Objective

- Objective: to identify current patterns of authorship and international collaboration in epidemiology
- Approach: examine authorship characteristics for all articles published in nine leading public health journals in 2006 that focused on one study country

Definitions

- Study country = the country on which the article focuses

- Author country
  - Used country of the institutional affiliation(s) listed on the article
  - Some authors had multiple countries of affiliation

    → Some authors listed as affiliated with both a low/middle income country and a high income country and/or in multiple world regions

Methods

- All articles published in 2006 in AJE, AJPH, AJTMH, E&I, IJE, JCE, JECH, TRSTMH, and TM&IH
  - Journals selected using data from ISI Web of Knowledge
  - Tropical medicine journals are overrepresented
- Exclude letters, editorials, and other special features → **1991** articles
- Limit to articles focused on only 1 study country → **1686** articles for this analysis

Results Outline

- Analysis by income level
- Analysis by world region
- Analysis by country *(selected countries only)*

Methods: Income Level

- World Bank cut-offs for country income level
- LMIC = low or middle income country
  - GNI per capita ≤ US$11,115
  - 677 (40.2%) of included studies conducted in LMICs
- HIC = high income country
  - GNI per capita > US$ 11,115
  - 1009 (59.8%) of included studies conducted in HICs

Results: Income Level

Study Country Classification	International co-authorship	Mean number of authors
LMIC (GNI < $11,115)	74.2%	7.0
HIC (GNI ≥ $11,115)	13.0%	5.2

Results: Income Level

	Any author from…				First author from…		
	Study country	Other country	LMIC	HIC	Study country	LMIC	HIC
LMIC	93.4%	79.0%	93.8%	78.0%	57.9%	59.1%	51.1%
HIC	98.7%	14.0%	0.8%	100.0%	95.7%	0.1%	99.9%

Results: Income Level

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	Study country	Other country	LMIC	HIC	Study country	LMIC	HIC
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HIC	98.7%	14.0%	0.8%	100.0%	95.7%	0.1%	99.9%

Results: Income Level

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HIC	98.7%	14.0%	0.8%	100.0%	95.7%	0.1%	99.9%

Results: Income Level

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HIC	98.7%	14.0%	0.8%	100.0%	95.7%	0.1%	99.9%

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LMIC	93.4%	79.0%	93.8%	78.0%	57.9%	59.1%*	51.1%*
HIC	98.7%	14.0%	0.8%	100.0%	95.7%	0.1%	99.9%

*Many first authors have affiliations in both an LMIC and an HIC.

Results: Income Level

			International Collaborations		
	Authors from 1 LMIC	Authors from 1 HIC	Authors from 2+ LMICs	Authors from 2+ HICs	Authors from both LMICs & HICs
LMIC Study Country	21.0%	4.9%	1.0%	1.3%	71.8%
HIC Study Country	0.0%	87.0%	0.0%	12.2%	0.8%

Results: Income Level

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	Authors from 1 LMIC	Authors from 1 HIC	Authors from 2+ LMICs	Authors from 2+ HICs	Authors from both LMICs & HICs
LMIC Study Country	21.0%	4.9%	1.0%	1.3%	71.8%
HIC Study Country	0.0%	87.0%	0.0%	12.2%	0.8%

Results: Income Level

			International Collaborations		
	Authors from 1 LMIC	Authors from 1 HIC	Authors from 2+ LMICs	Authors from 2+ HICs	Authors from both LMICs & HICs
LMIC Study Country	*21.0%*	*4.9%*	*1.0%* “south-south” collaborations	*1.3%* “north-north” collaborations	*71.8%* “north-to-south” collaborations
HIC Study Country	*0.0%*	*87.0%*	*0.0%*	*12.2%*	*0.8%* “south-to-north” collaborations

Results: Income Level

- “North-to-south” (HIC + LMIC co-authors / LMIC study country) and “north-north” collaborations are common
- “South-to-north” (LMIC + HIC co-authors / HIC study country) and “south-south” collaborations are rare
- There is a high rate of participation by “local” authors from both LMICs and HICs

Methods: World Region

- World Health Organization (WHO) regions that group countries by geographic, cultural, and income characteristics
  - AFRO = sub-Saharan Africa
  - AMRO = the Americas
  - EMRO = North Africa / Middle East (the Eastern Mediterranean region)
  - EURO = Europe
  - SEARO = South-East Asia
  - WPRO = East Asia / Oceania (the Western Pacific region)

Results: World Region

	% LMIC studies	International co-authorship
EURO	5.0%	19.8%
AMRO	22.9%	21.5%
WPRO	39.7%	43.0%
SEARO	100.0%	56.1%
EMRO	100.0%	76.9%
AFRO	100.0%	88.1%

Results: World Region

Study Country Region	% with at least 1 co-author from…					
	EURO	AMRO	WPRO	SEARO	EMRO	AFRO
EURO	99.0%	9.0%	1.5%	0.0%	0.0%	0.3%
AMRO	10.0%	99.3%	1.3%	0.3%	0.1%	0.1%
WPRO	22.3%	22.3%	97.2%	2.2%	0.6%	0.0%
SEARO	30.9%	29.5%	10.8%	91.4%	0.0%	1.4%
EMRO	43.6%	38.5%	10.3%	2.6%	84.6%	2.6%
AFRO	62.8%	33.6%	5.1%	0.4%	0.0%	95.7%

Results: World Region

Study Country Region	% with at least 1 co-author from…					
	EURO	AMRO	WPRO	SEARO	EMRO	AFRO
EURO	99.0%	9.0%	1.5%	0.0%	0.0%	0.3%
AMRO	10.0%	99.3%	1.3%	0.3%	0.1%	0.1%
WPRO	22.3%	22.3%	97.2%	2.2%	0.6%	0.0%
SEARO	30.9%	29.5%	10.8%	91.4%	0.0%	1.4%
EMRO	43.6%	38.5%	10.3%	2.6%	84.6%	2.6%
AFRO	62.8%	33.6%	5.1%	0.4%	0.0%	95.7%

Results: World Region

Study Country Region	% with at least 1 co-author from…					
	EURO	AMRO	WPRO	SEARO	EMRO	AFRO
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AMRO	10.0%	99.3%	1.3%	0.3%	0.1%	0.1%
WPRO	22.3%	22.3%	97.2%	2.2%	0.6%	0.0%
SEARO	30.9%	29.5%	10.8%	91.4%	0.0%	1.4%
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Results: World Region

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AMRO	10.0%	99.3%	1.3%	0.3%	0.1%	0.1%
WPRO	22.3%	22.3%	97.2%	2.2%	0.6%	0.0%
SEARO	30.9%	29.5%	10.8%	91.4%	0.0%	1.4%
EMRO	43.6%	38.5%	10.3%	2.6%	84.6%	2.6%
AFRO	62.8%	33.6%	5.1%	0.4%	0.0%	95.7%

Results: World Region

Study Country Region	% with at least 1 co-author from…					
	EURO	AMRO	WPRO	SEARO	EMRO	AFRO
EURO	99.0%	9.0%	1.5%	0.0%	0.0%	0.3%
AMRO	10.0%	99.3%	1.3%	0.3%	0.1%	0.1%
WPRO	22.3%	22.3%	97.2%	2.2%	0.6%	0.0%
SEARO	30.9%	29.5%	10.8%	91.4%	0.0%	1.4%
EMRO	43.6%	38.5%	10.3%	2.6%	84.6%	2.6%
AFRO	62.8%	33.6%	5.1%	0.4%	0.0%	95.7%

Results: World Region

	First author from…		
	Study Country	Study Region	Other Region
EURO	92.7%	96.5%	4.3%
AMRO	89.5%	95.4%	5.6%
WPRO	79.3%	86.0%	17.9%
SEARO	68.3%	69.8%	38.8%
EMRO	51.3%	51.3%	56.4%
AFRO	49.4%	50.6%	64.8%

Results: World Region

- Researchers from higher-income regions (the “north”) are more likely than researchers from lower-income regions (the “south”) to co-author papers that focus on other regions
- There is a high rate of participation by “local” authors in all regions

Results: Study Country

Study Country	% international co-authorship	% any author from study country	% first author from study country
USA	7.1%	99%	97%
UK	7.9%	98%	96%
Brazil	40.4%	98%	90%
India	31.6%	95%	79%
Australia	20.9%	100%	100%
Canada	22.0%	100%	95%
Netherlands	18.4%	100%	95%
Kenya	94.4%	94%	44%

Results: Study Country

Study Country	% international co-authorship	% any author from study country	% first author from study country
USA	7.1%	99%	97%
UK	7.9%	98%	96%
Brazil	40.4%	98%	90%
India	31.6%	95%	79%
Australia	20.9%	100%	100%
Canada	22.0%	100%	95%
Netherlands	18.4%	100%	95%
Kenya	94.4%	94%	44%

Results: Study Country

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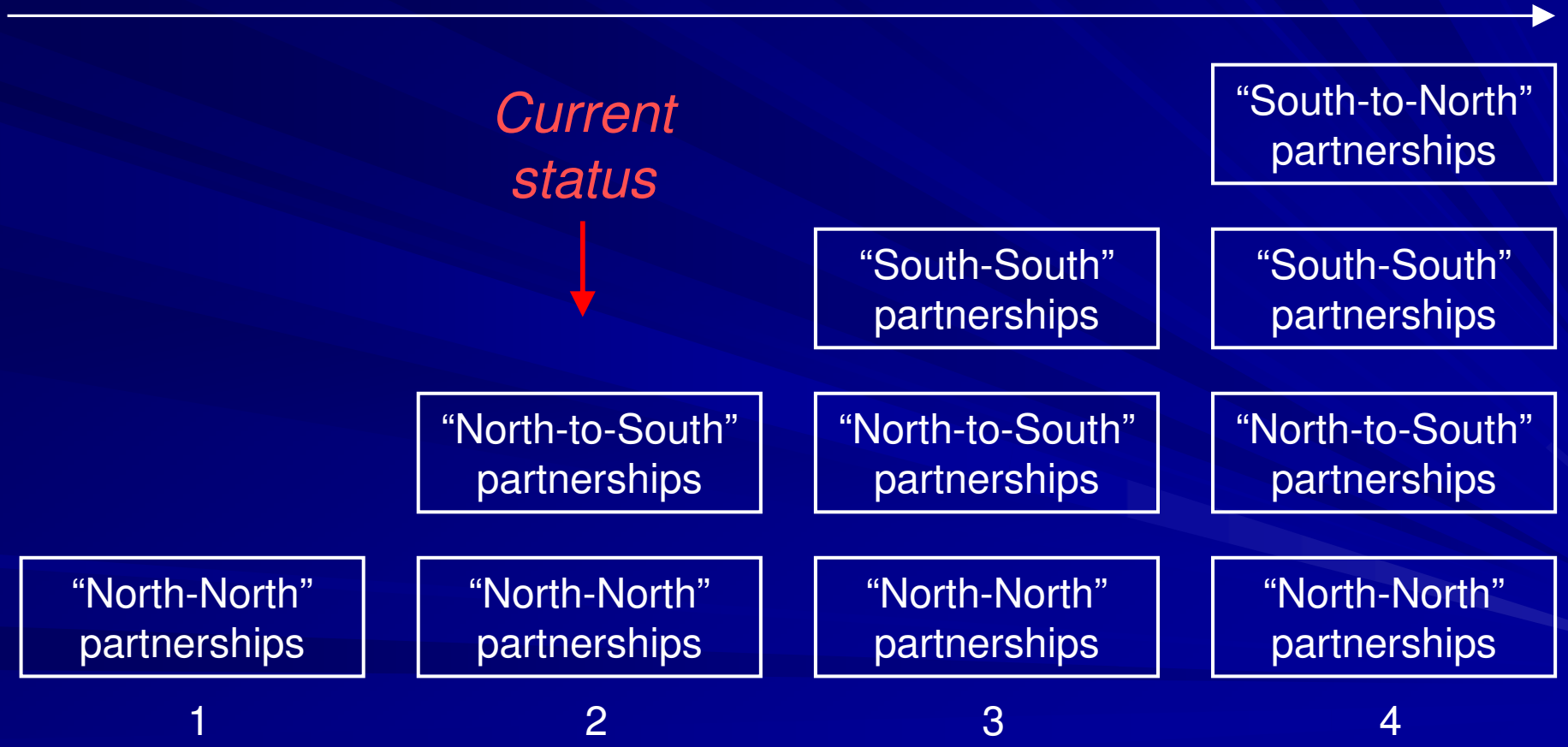
USA	7.1%	99%	97%
UK	7.9%	98%	96%
Brazil	40.4%	98%	90%
India	31.6%	95%	79%
Australia	20.9%	100%	100%
Canada	22.0%	100%	95%
Netherlands	18.4%	100%	95%
Kenya	94.4%	94%	44%

Key Findings

- Studies focused on high income areas are usually written only by authors from high income areas
- Studies focused on low income areas usually involve “north-to-south” partnerships
- The most common modes of international collaboration are “north-north” and “north-to-south” co-authorship
- High rates of “local” co-authorship

Globalization of Collaboration



Questions?