Respiratory symptoms and care-seeking behavior in a Brazilian *favela* (slum)

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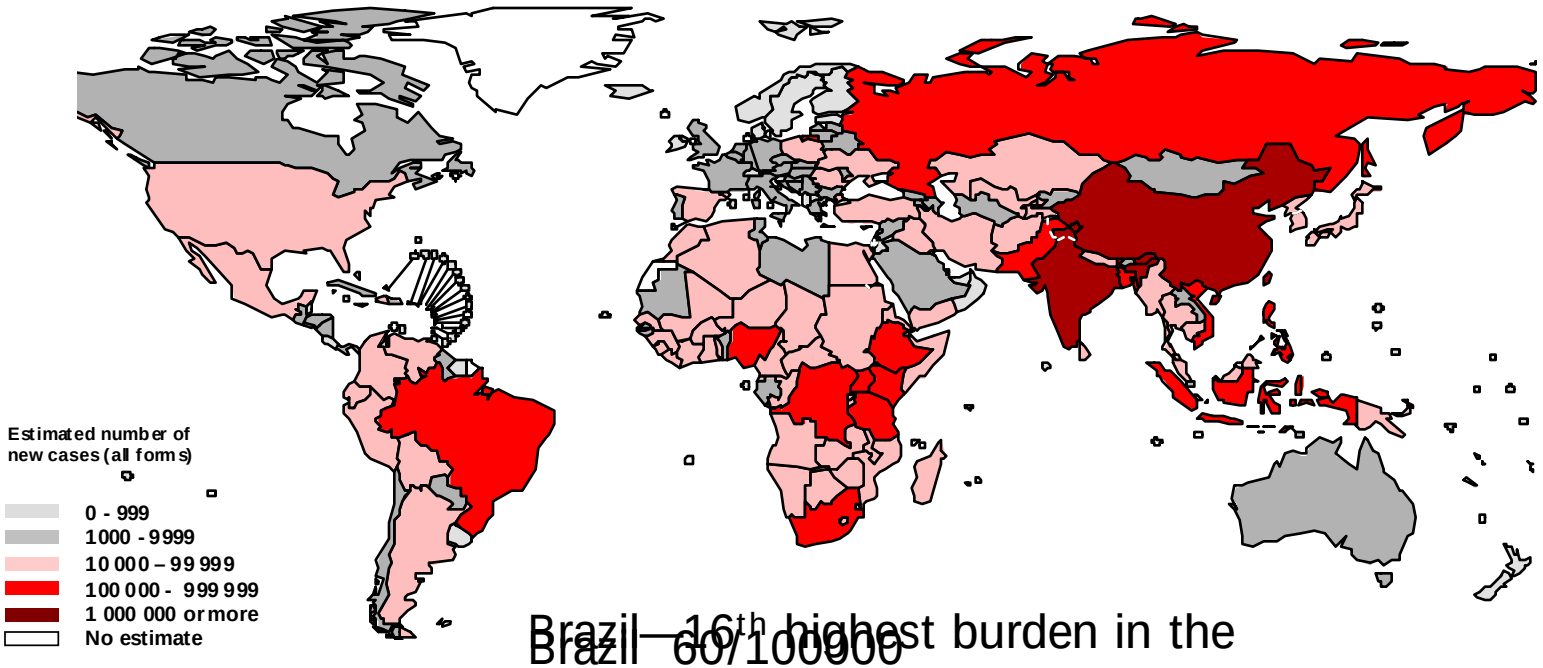
Estimated number of new TB cases, 2004



Brazil—16th highest burden in the world
Brazil 60/100000
Rio 120/100000
110,000 cases &7000 deaths per year

Rationale: diagnostic delay

Diagnostic and treatment delay is associated with increased transmission and poorer treatment outcomes

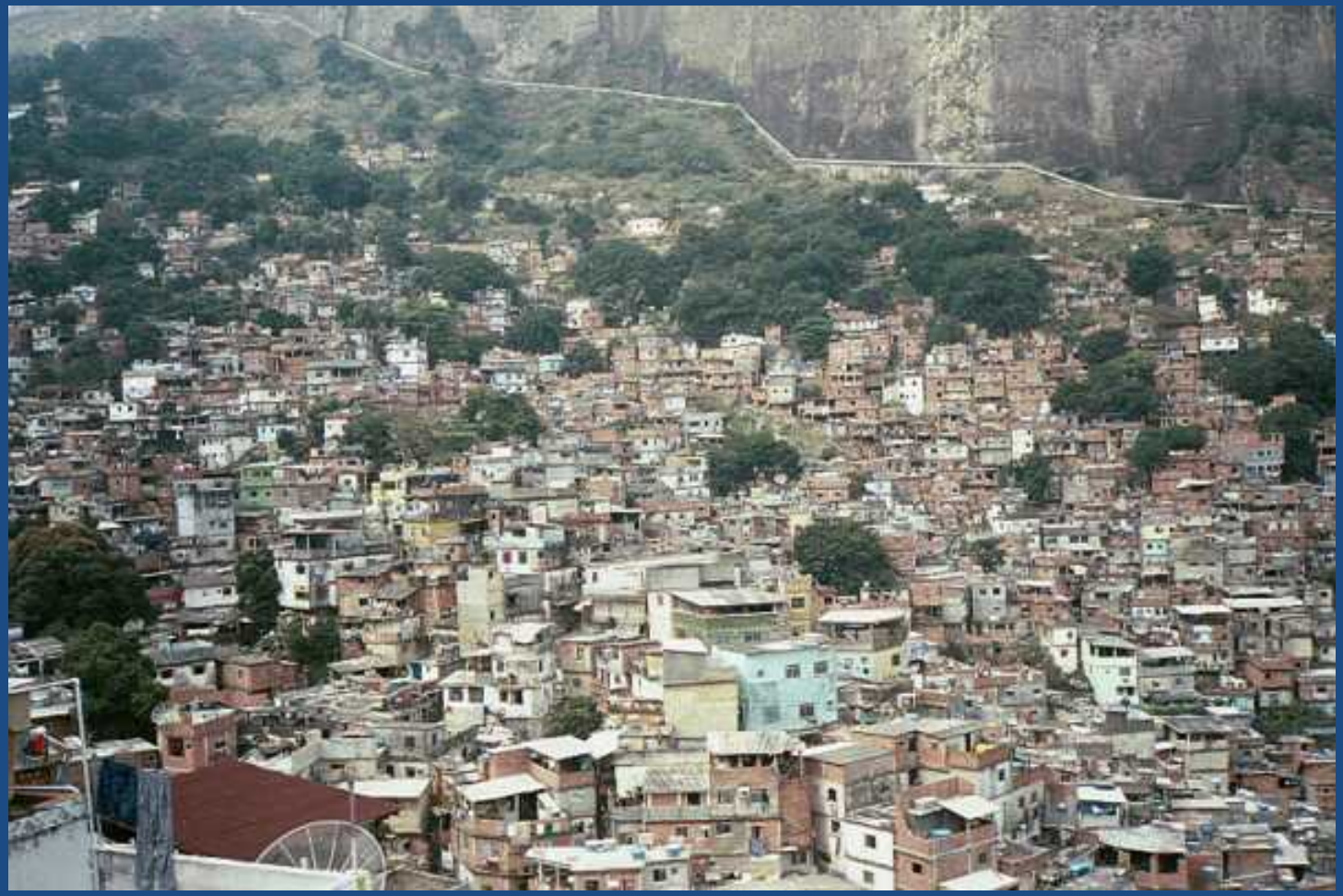
Diagnostic delay consists of provider delay + patient delay

Factors associated with patient delay in various studies include

- access to care (includes not knowing where to seek treatment, not having funds to pay for treatment, distance from treatment, inaccessible clinic hours)
- low awareness of disease
- severity of symptoms
- age
- gender

(Sample references at end)

Rocinha *favela*



Brazil 60/100000

Rio's 120/100000

Rocinha 350/100000

Rationale

Active case finding project begun in Rocinha

ACF not recommended by WHO because many with symptoms seek care but are not diagnosed.

Objectives: To determine community prevalence of cough and whether coughers sought medical evaluation.

Methods

50 community health workers, already administering DOT in Rocinha, were trained to perform a symptom screen and sputum collection

In half of Rocinha's neighborhoods, a cross-sectional house-to-house survey of all residents was performed.

IRB approved.

Oral consent obtained from all participants

Photos: Ann C. Miller & Rio de Janeiro Prefietura of Health

Methods cont., survey questionnaire

Questions asked of residents included:

- Age and sex
- TB history
- Presence and duration of cough
- Contact status (did anyone else in the house have active TB?)
- If cough present for 3 or more weeks,
  - Did the respondent seek medical evaluation?
  - If so, where and when?

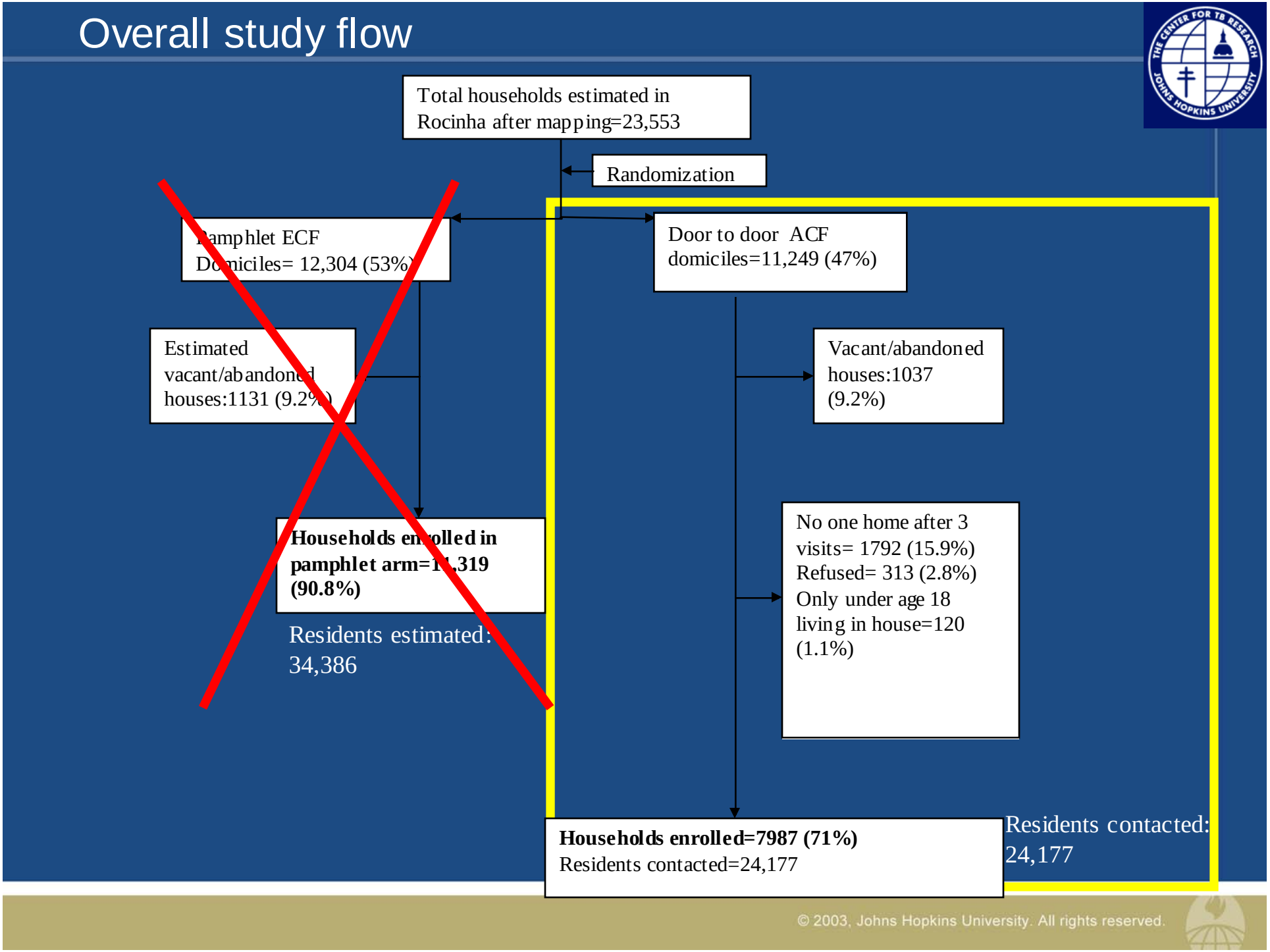
Methods, cont. Analysis

Data entered into MS Access, analyzed in Stata 8.

2x2 tables used for exploratory analysis.

Cough and care-seeking behavior were assumed to be correlated by household. Generalized Estimating Equations (GEE) using binomial model, with an exchangeable correlation was used to analyze correlated data.

Overall study flow



Results

23,801 people in 7937 households were screened (98% of 24,177 residents contacted, 77% of 31044 estimated residents total)

1310 reported cough (6%); 111(8% of 1310) reported seeking evaluation for symptoms

430 reported cough for 3 or more weeks (2% of total, 33% of coughers), 66 (15%) reported seeking evaluation for symptoms

13 (3%) of 430 were smear positive TB. One of these had sought evaluation, and had been diagnosed with TB already.

Characteristics associated with seeking care. n=1310

Characteristic	Had symptoms evaluated? Y	N	Univariate GEE OR(95%CI)	Multivariate GEE OR (95%CI)
Male gender	51 (8%)	604(92%)	.83 (0.57, 1.22)	
Female gender	69(9%)	595(91%)	1.00	
Age <=5	33 (19%)	143 (81%)	**3.00 (1.93, 4.68)**	**4.45 (2.74, 7.12)**
Age>5	78 (8%)	1056 (92%)	**1.00**	**1.00**
Hx of TB	7 (9%)	75 (91%)	1.05 (0.48,2.30)	
No Hx of TB	104 (8%)	1123 (92%)	1.00	
Cough>=3week	66 (15%)	364 (85%)	**3.34 (2.22,5.03)**	**4.38 (2.82, 6.81)**
Cough <3weeks	45 (5%)	835 (95%)	**1.00**	**1.00**
Someone else in house has TB?				
Y	0	5 (100%)	NA	NA
N	111 (9%)	1194 (91%)		

Characteristics associated with choice of where to seek care, N=106.

Characteristic	Went for care to:		Univariate GEE OR(95%CI)
	ER/Hospital	Clinic/Health Post	
Male	20(42%)	28(58%)	0.64 (0.36. 1.13)
Female	37(68%)	21(36%)	1.00
Age <=5	19(64%)	14(36%)	1.07 (0.71,1.63)
Age>5	38(52%)	35(48%)	1.00
Prior TB	2 (25%)	4(75%)	0.46 (0.08,2.61)
No Prior TB	55(55%)	45(44%)	1.00
Cough>=3 wks	33(52%)	31(48%)	0.95 (0.56, 1.63)
Cough <3 wks	24(57%)	18 (43%)	1.00

Discussion

People with respiratory symptoms in Rocinha are not generally seeking care for these symptoms, but:

- children with symptoms are more likely to be taken for care than adults to seek care for themselves
- People who had been coughing for more than 3 weeks were more likely to seek care.

- Interestingly, people with a history of active TB were no more likely to seek care for symptoms than people with no history of TB

Discussion, cont.

Gender, TB history, contact status were not associated with seeking care.

A higher percentage of women sought care at hospital ERs than clinics, but not significantly different.

No significant differences in characteristics of people seeking care at public vs. private facilities.

Discussion, cont.

Education, literacy, socioeconomic status were not assessed, but are not expected to be significantly heterogeneous in this *favela*. Care at health posts is free and accessible by public transportation.

Involved community members as research staff

- Low refusal rates
- Followed DOT protocol better than clinic staff (nurses & physicians)

Explore both increased use of community agents already in the area and media involvement for encouraging people to come for care.

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Co-Authors

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Rocinha's dedicated community health agents:

Ad
Fre
Fe
Ca
Fa
do
Sil
Ba
Joa
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Oli
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