

# Measuring Financial Protection in Health in Latin America

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November 6, 2007

## Outline of Talk

- Defining Financial Protection in Health
- Measuring Financial Protection in Health in the United States – article in Health Policy
- Measuring Financial Protection in Health in Latin America – work in progress

# Defining Financial Protection in Health

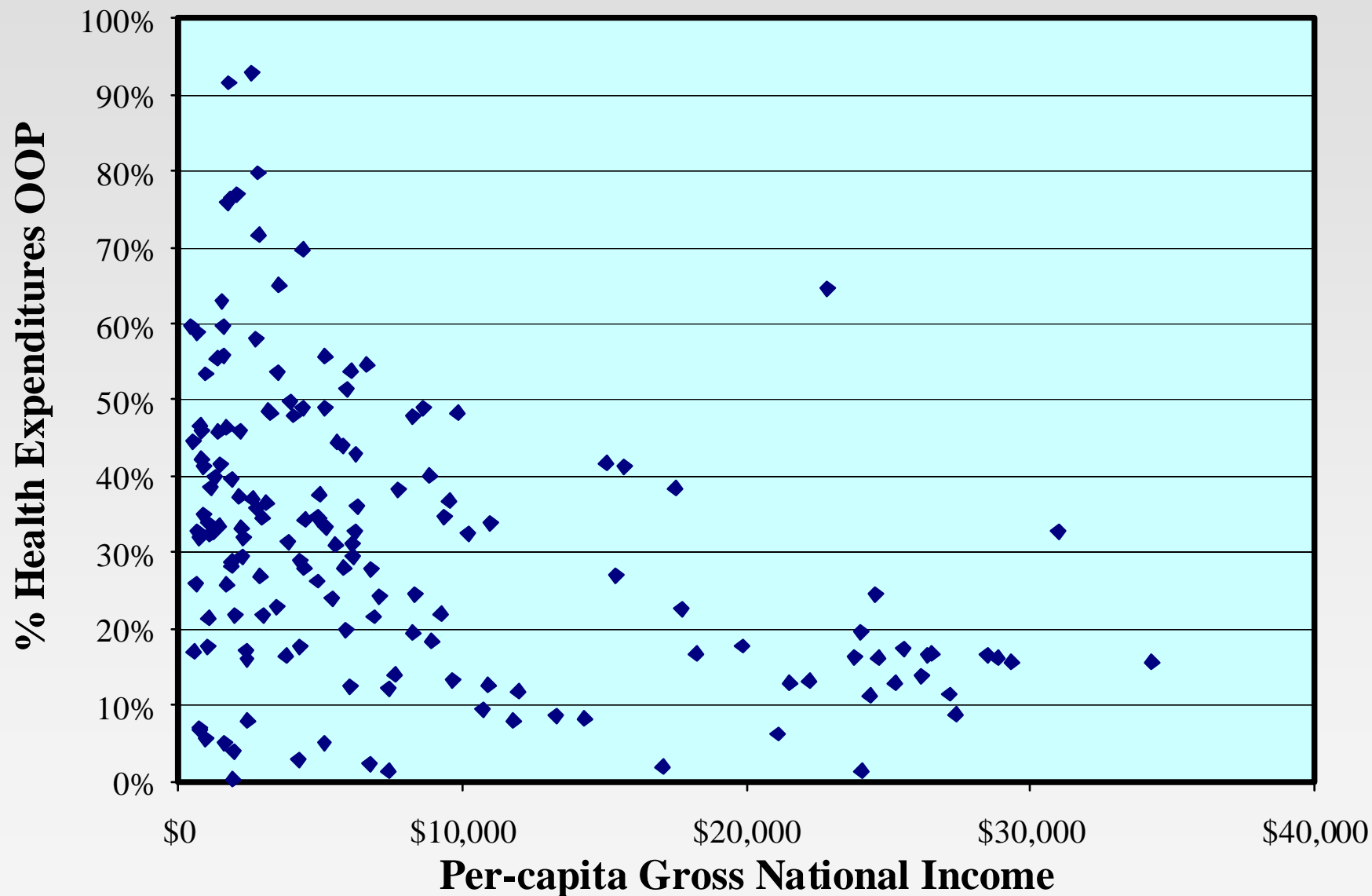
## % Total Health Expenditures Out-of-Pocket, by Income Level, 2002

| Country  | GDP per cap. (\$PPP) | Health Expenditures |             |                      |                   |
|----------|----------------------|---------------------|-------------|----------------------|-------------------|
|          |                      | Per cap. (\$US)     | As % of GDP | Public as % of total | OOP as % of total |
| U.S.A    | \$35,750             | \$4,887             | 13.7%       | 44.6%                | 16.0%             |
| U.K.     | \$26,150             | \$1,835             | 7.0%        | 82.9%                | 12.0%             |
| France   | \$26,920             | \$2,109             | 7.8%        | 76.0%                | 21.6%             |
| Chile    | \$9,820              | \$303               | 3.1%        | 44.0%                | 15.0%             |
| Algeria  | \$5,760              | \$213               | 3.7%        | 75.6%                | 32.7%             |
| Turkey   | \$6,390              | \$202               | 3.2%        | 63.2%                | 28.0%             |
| Ecuador  | \$3,580              | \$129               | 3.6%        | 51.1%                | 49.0%             |
| Cameroon | \$2,000              | \$20                | 1.0%        | 36.4%                | 56.0%             |
| Yemen    | \$870                | \$20                | 2.3%        | 33.3%                | 53.9%             |

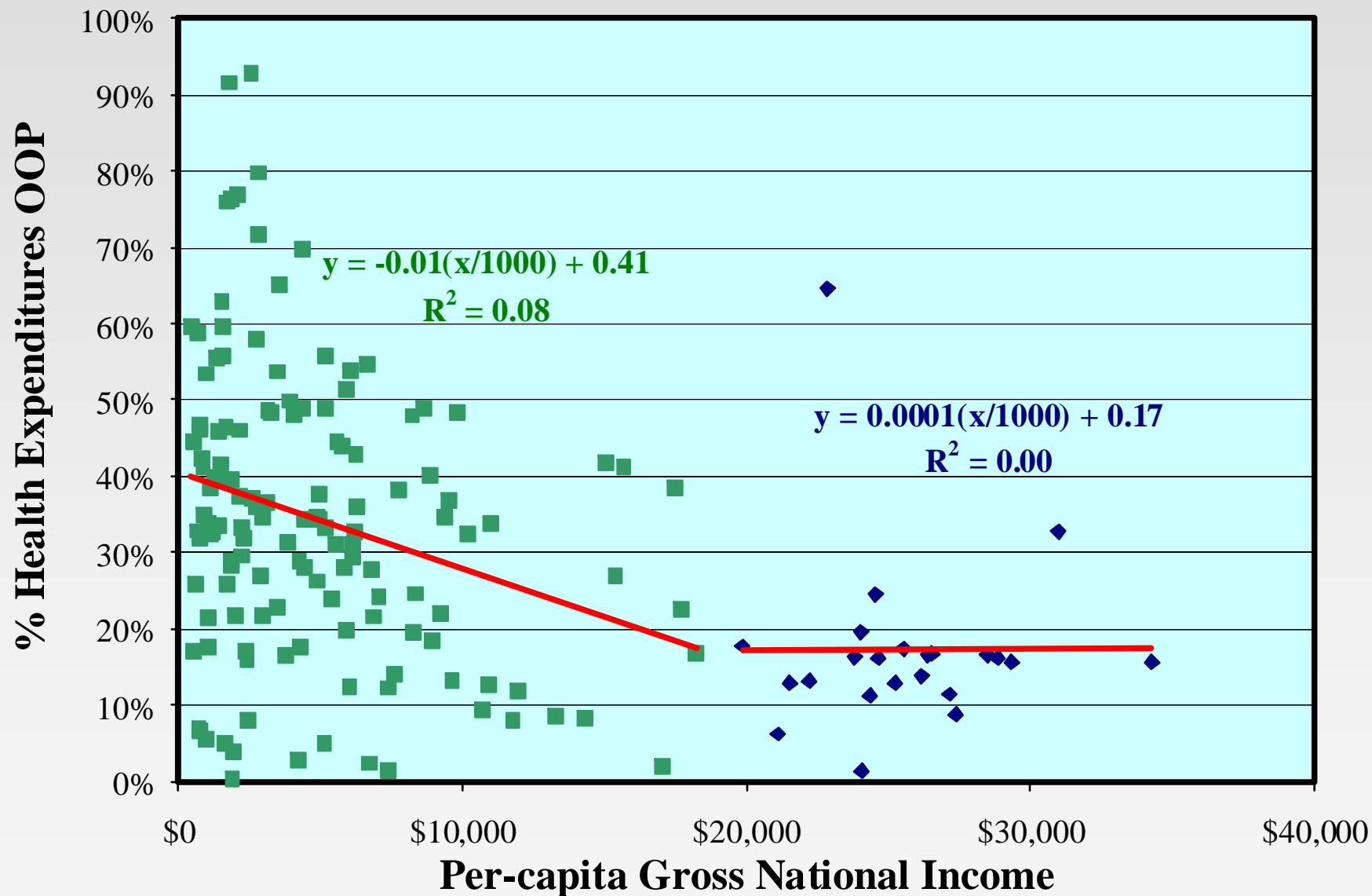
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## Financial Protection in Health

- The risk that high health expenditures pose to the financial security of poor and vulnerable populations.
- Two components:
  - Catastrophic health spending prevents obtaining other necessities.
  - Not obtaining needed health care.



## Financial Protection in Health

- The 2000 World Health Report included *fairness in financing*.
- Numerator: out-of-pocket (OOP) health expenditures, health insurance premiums, and the portion of households' income tax and sales taxes going to health spending.
- Denominator: Total non-food spending.
- Households for which this ratio exceeds 0.5 likely to be impoverished.

## Financial Protection in Health

- Xu et al (2003) use data from cross-sectional surveys in 59 countries. Catastrophic when health expenditures are more than 40% of non-food spending:
  - Brazil – 10.3% of households
  - Costa Rica – 0.1%
  - Mexico – 1.5%
  - Nicaragua – 2.1%
  - Panama – 2.4%

## Other Studies of Financial Protection

- Financial protection as households' (HH) out-of-pocket health spending compared to total expenditures.
- Regressively distributed in Bangladesh, Burkina Faso, China, Paraguay, Thailand, and Sierra Leone – poorer HH spend higher share of their budgets on health than wealthier HH.
- Progressively distributed in Indonesia, Guatemala, India, Mexico, and Nepal.

# **Financial Protection in Health in the United States**

## Data

- 1996 Medical Expenditure Panel Survey (MEPS).
- Household survey component (HC) of the MEPS linked to the insurance component (IC).

## Definitions

- A lack of financial protection defined as household spending on health care when:
  - Out-of pocket health expenditures exceed 10% of family income;
  - Out-of pocket expenditures exceed an absolute level of \$2,000 per family member on an annual basis; and
  - Combined out-of pocket and prepaid health expenditures exceed 40% of family income.

# Average Individual Medical Expenditures

|                                     | <b>All Individuals</b> | <b>Individuals with<br/>at Least one<br/>Chronic<br/>Condition</b> |
|-------------------------------------|------------------------|--|
| Sample counts                       | 22,601                 | 7,677  |
| Average Total Medical Expenditure   | \$2,099                | \$4,000  |
| % of Medical Expenses Out-of-Pocket | 20.7%                  | 18.3%  |

Source: 1996 MEPS

Based on all non-institutionalized, civilian population.

## OOP Spending as % of Family Income

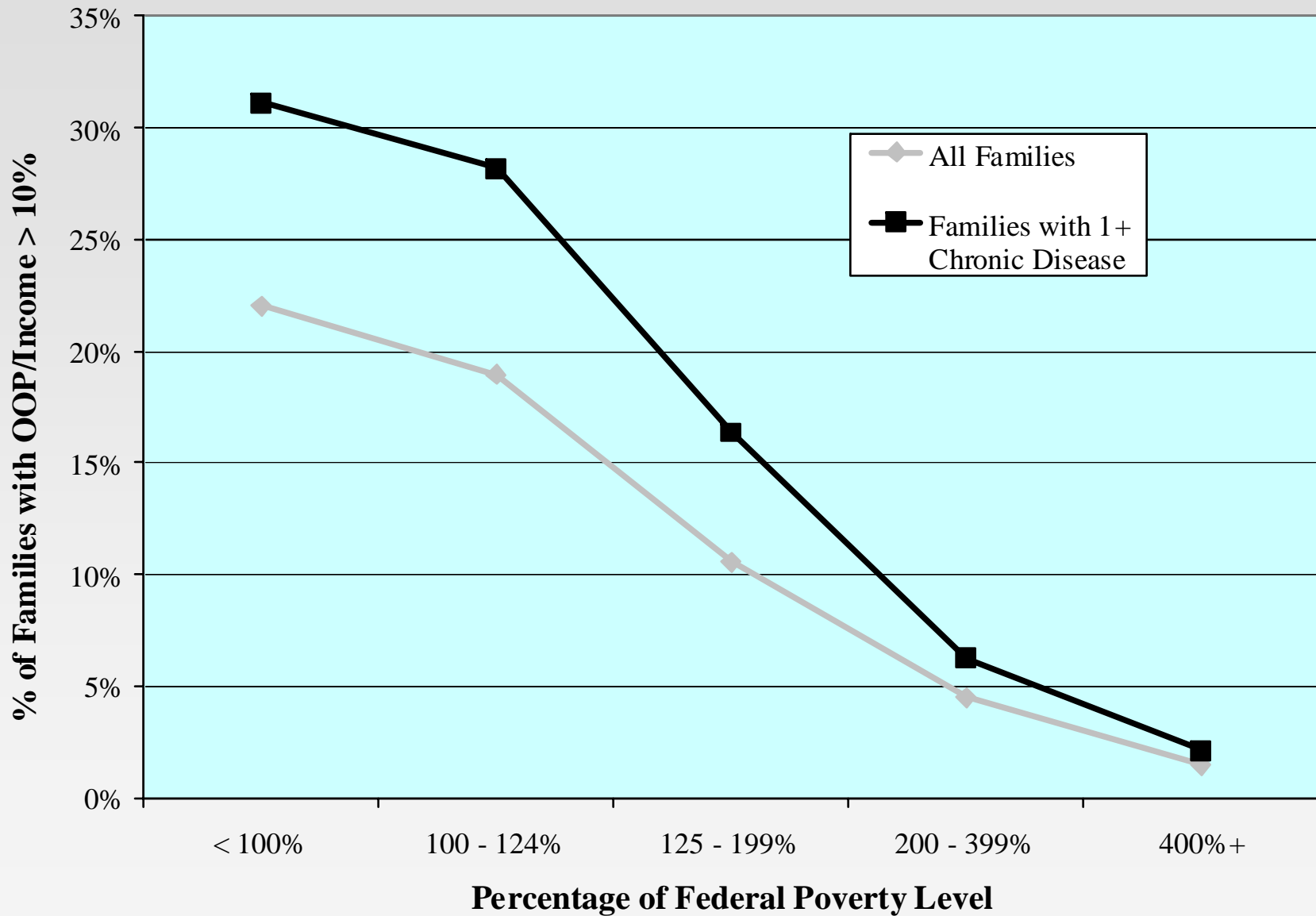
|                | <b>Total<br/>Families<br/>Sampled</b> | <b>Medical<br/>Expense /<br/>Income<br/>(%)</b> | <b>OOP /<br/>Medical<br/>Expense<br/>(%)</b> | <b>OOP /<br/>Income<br/>(%)</b> |
|----------------|---------------------------------------|---|--|---------------------------------|
| Below 100% FPL | 1,439                                 | 61.4  | 10.6   | 6.5                             |
| 100 - 124% FPL | 477                                   | 31.1  | 16.6   | 5.2                             |
| 125 - 199% FPL | 1,334                                 | 23.5  | 16.3   | 3.8                             |
| 200 - 399% FPL | 2,652                                 | 12.6  | 19.1   | 2.4                             |
| 400%+          | 2,730                                 | 6.3   | 21.3   | 1.3                             |
| Total          | 8,632                                 | 10.9  | 18.3   | 2.0                             |



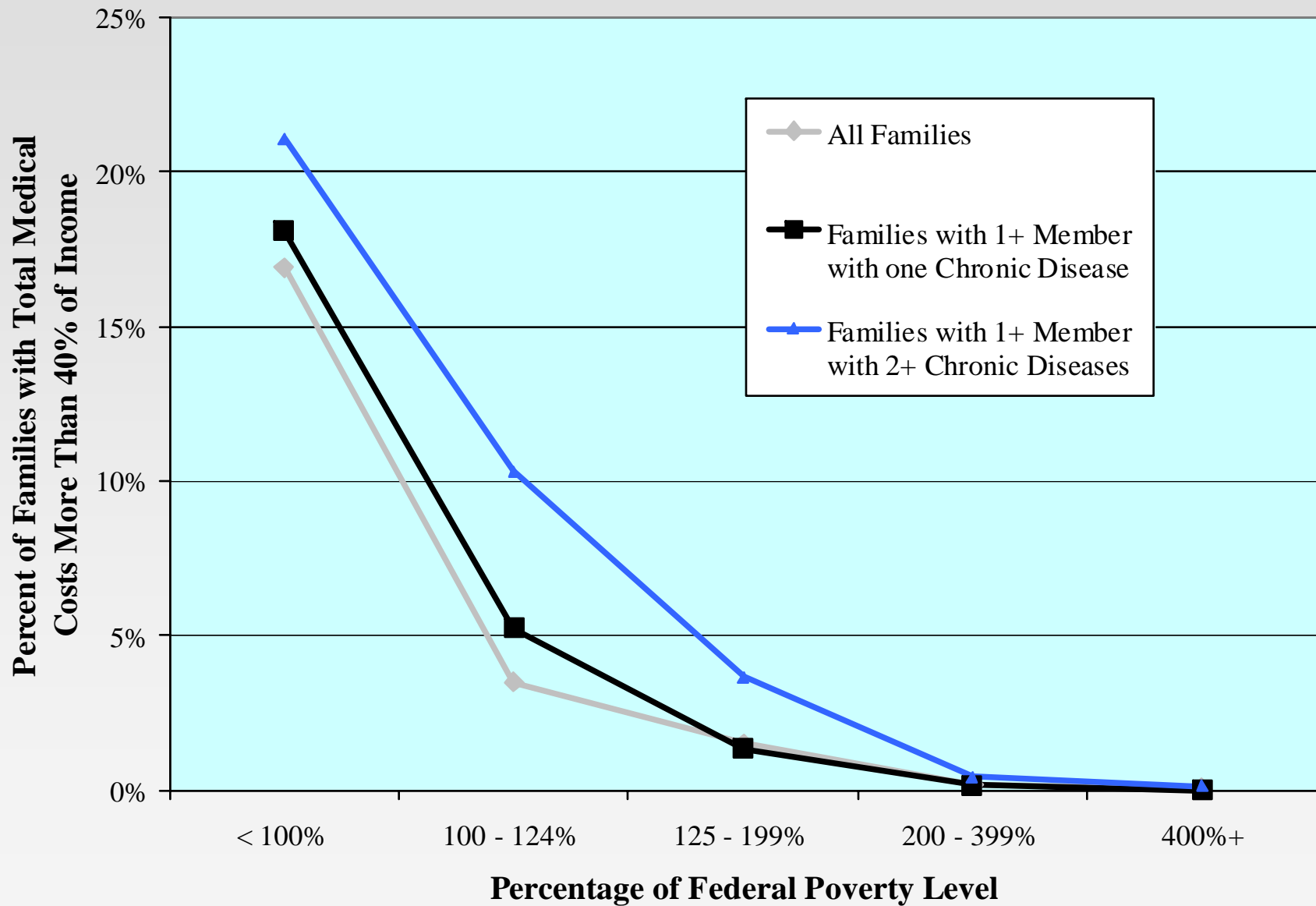
# Families Spending 10%+ of Income on OOPs

|                         | Total Families Sampled | Families Spending More than 10% of Income Out of Pocket, by Insurance Status |      |                |       |
|-------------------------|------------------------|--|------|----------------|-------|
|                         |                        | ESI  | OPHI | Public or None | Total |
| Below 100% FPL          | 1,443                  | 22.9   | 27.3 | 18.8           | 22.0  |
| 100 - 124% FPL          | 438                    | 18.1   | 25.3 | 20.0           | 18.9  |
| 125 - 199% FPL          | 1,224                  | 8.9  | 14.5 | 14.8           | 10.5  |
| 200 - 399% FPL          | 2,227                  | 4.5  | 5.1  | 4.3            | 4.5   |
| 400%+                   | 2,792                  | 1.3  | 4.1  | 1.0            | 1.4   |
| Total                   | 8,875                  | 6.6  | 12.1 | 10.1           | 7.5   |
| Percent of all families |                        | 77.6%  | 5.7% | 16.7%          | 100%  |

# Families Spending 10%+ of Income OOP



# Families Spending 40%+ of Income OOP



# Measuring Financial Protection in Health in Latin America

# Household Surveys Included

| Survey | Country   | Year | Recall<br>Period for<br>Health Spending | N       |
|--------|-----------|------|---|---------|
| LSMS   | Ecuador   | 1994 | 1 month                                 | 20,685  |
| LSMS   | Ecuador   | 1995 | 1 month                                 | 26,372  |
| LSMS   | Ecuador   | 1998 | 2 weeks                                 | 26,094  |
| LSMS   | Guatemala | 2000 | 1 month                                 | 37,755  |
| LSMS   | Nicaragua | 1993 | 30 days                                 | 21,265  |
| LSMS   | Nicaragua | 1998 | 1 month                                 | 22,358  |
| LSMS   | Nicaragua | 2001 | 1 month                                 | 22,767  |
| LSMS   | Panama    | 1997 | 1 month                                 | 21,276  |
| LSMS   | Peru      | 1994 | 4 weeks                                 | 18,833  |
| LSMS   | Peru      | 1999 | 3 months                                | 16,756  |
| LSMS   | Peru      | 2000 | 3 months                                | 16,794  |
| ECH    | Bolivia   | 1999 | 4 weeks                                 | 13,031  |
| ECH    | Bolivia   | 2000 | 4 weeks                                 | 20,815  |
| ENSA   | Mexico    | 2000 | 2 weeks                                 | 185,064 |

## Levels of Health Insurance

| Survey | Country   | Year | N       | Health Insurance (%): |         |      |       |
|--------|-----------|------|---------|-----------------------|---------|------|-------|
|        |           |      |         | Public                | Private | None | Total |
| LSMS   | Ecuador   | 1998 | 26,110  | 19.0                  | 2.9     | 78.1 | 100   |
| LSMS   | Guatemala | 2000 | 37,760  | 8.3                   | 2.2     | 89.0 | 100   |
| LSMS   | Nicaragua | 2001 | 22,767  | 8.4                   | 0.3     | 91.2 | 100   |
| LSMS   | Panama    | 1997 | 21,302  | 44.6                  | 1.8     | 49.6 | 100   |
| LSMS   | Peru      | 2000 | 16,794  | 46.0                  | 2.0     | 55.7 | 104   |
| ECH    | Bolivia   | 2000 | 20,815  | 17.1                  | 3.7     | 79.1 | 100   |
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# Social Security Contribution as % of Payroll

| Type of Social Security Program   | Ecuador         | Guatemala    | Panama |
|-----------------------------------|-----------------|--------------|--------|
| <b>Old Age, Disability, Death</b> |                 |              |        |
| Insured Person                    | 6.0% to 10.4%   | 1.50%        | 6.75%  |
| Employer                          | 0.39% to 2.39%  | 3.00%        | 2.75%  |
| Government                        | 40% of costs    | 25% of costs | 1.04%  |
| <b>Sickness and Maternity</b>     |                 |              |        |
| Insured employed person           | 0.00%           | 2.00%        | 0.50%  |
| Insured self-employed             | 3.41%           |              |        |
| Employer                          | 3.41%           | 4.00%        | 2.75%  |
| Government                        | 0.00%           | 2.00%        | 1.04%  |
| <b>Seguro Social Campesino†</b>   |                 |              |        |
| IESS affiliates                   | 0.35%           |              |        |
| SSC affiliates                    | 1% of min. wage |              |        |

# Household Health Expenditures as % of Income

| Country   | Year | N     | Health Expenditures as a Percentage of Income |                          |               |               |       | % of HH Spending 10% or More on Health |
|-----------|------|-------|---|--------------------------|---------------|---------------|-------|--|
|           |      |       | Prepaid Health Expenditures                   |                          |               | Out of Pocket | Total |  |
|           |      |       | Social Security                               | Private Health Insurance | Total Prepaid |               |       |  |
| Ecuador   | 1998 | 5,741 | 0.1   | 0.1                      | 0.2           | 18.9          | 19.1  | 35.7                                   |
| Guatemala | 2000 | 7,213 | 0.3   | 0.2                      | 0.6           | 13.0          | 13.6  | 22.0                                   |
| Nicaragua | 2001 | 4,186 | 0.1   | 0.0                      | 0.1           | 9.0           | 9.1   | 20.8                                   |
| Panama    | 1997 | 4,325 | 0.3   | 0.5                      | 0.9           | 13.9          | 14.7  | 22.8                                   |
| Peru      | 1994 | 3,458 | 0.1   | 0.0                      | 0.1           | 10.3          | 10.3  | 18.5                                   |

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# Household Health Expenditures as % of Consumption

| Country   | Year | N     | Health Expenditures as a % of Consumption |                          |               |       | Out of Pocket | Total | % of HH Spending 10% or More on Health |
|-----------|------|-------|---|--------------------------|---------------|-------|---------------|-------|--|
|           |      |       | Prepaid Health Expenditures               |                          |               | Total |               |       |  |
|           |      |       | Social Security                           | Private Health Insurance | Total Prepaid |       |               |       |  |
| Ecuador   | 1998 | 5,800 | 0.0                                       | 0.1                      | 0.1           | 12.3  | 12.5          | 31.6  |  |
| Guatemala | 2000 | 7,276 | 0.3                                       | 0.2                      | 0.5           | 6.9   | 7.4           | 17.8  |  |
| Nicaragua | 2001 | 4,191 | 0.1                                       | 0.0                      | 0.1           | 5.2   | 5.3           | 17.3  |  |
| Panama    | 1997 | 4,937 | 0.2                                       | 0.2                      | 0.4           | 5.2   | 5.6           | 14.1  |  |
| Peru      | 1994 | 3,623 | 0.0                                       | 0.0                      | 0.0           | 5.2   | 5.2           | 12.0  |  |

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| Peru      | 1994 | 3,623 | 0.0                                       | 0.0                      | 0.0           | 5.2           | 5.2   | 12.0                                   |

## Next Steps

- What is the effect of catastrophic health spending on obtaining other household necessities?
  - Could measure as a cross-elasticity – variation in % of overall consumption going to health, education, food, and housing.



## Next Steps

- How to measure the unobserved hypothetical – when do health care prices prevent individuals from obtaining needed health care that would be catastrophic but is not affordable and thus not obtained?